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 (30) Priority Data: 0258/98 27 February 1998 (27.02.98) (71) Applicant: NOVO NORDISK A/S [DK/DK]; No DK-2880 Bagsvaerd (DK). (72) Inventors: KNUDSEN, Liselotte, Bjerre; Valby 49A, 1. tv., DK-2500 Valby (DK). HUU Per, Olaf; Applebys Plads 27.5. mf., DK-141 	ovo Al Langga SFELD	 SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).
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(54) Title: DERIVATIVES OF GLP-1 ANALOGS		
(57) Abstract	1	gs having a lipophilic substituent. The derivatives of GLP-1 analogs of
the present invention have a protracted profile of action.	-1 81184	да пачив в прориню заознаети тио соточното в оточно ото
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DERIVATIVES OF GLP-1 ANALOGS

FIELD OF THE INVENTION

The present invention relates to novel derivatives of human glucagon-like peptide-1 (GLP-1) and fragments thereof and analogues of such fragments which have a protracted profile of action and to methods of making and using them.

BACKGROUND OF THE INVENTION

Peptides are widely used in medical practice, and since they can be produced by recombinant DNA technology it can be expected that their importance will increase also in the 10 years to come. When native peptides or analogues thereof are used in therapy it is generally found that they have a high clearance. A high clearance of a therapeutic agent is inconvenient in cases where it is desired to maintain a high blood level thereof over a prolonged period of time since repeated administrations will then be necessary. Examples of peptides which have a

high clearance are: ACTH, corticotropin-releasing factor, angiotensin, calcitonin, insulin, gluca-15 gon, glucagon-like peptide-1, glucagon-like peptide-2, insulin-like growth factor-1, insulin-like growth factor-2, gastric inhibitory peptide, growth hormone-releasing factor, pituitary adenylate cyclase activating peptide, secretin, enterogastrin, somatostatin, somatotropin, somatomedin, parathyroid hormone, thrombopoietin, erythropoietin, hypothalamic releasing factors, prolactin, thyroid stimulating hormones, endorphins, enkephalins, vasopressin, oxytocin, opiods and analogues thereof, superoxide dismutase, interferon, asparaginase, arginase, arginine deaminase, adenosine deaminase and ribonuclease. In some cases it is possible to influence the release profile of peptides by applying suitable pharmaceutical compositions, but this approach

has various shortcomings and is not generally applicable.

The hormones regulating insulin secretion belong to the so-called enteroinsular axis, designating a group of hormones, released from the gastrointestinal mucosa in response to the presence and absorption of nutrients in the gut, which promote an early and potentiated release of insulin. The enhancing effect on insulin secretion, the so-called incretin effect, is probably essential for a normal glucose tolerance. Many of the gastrointestinal hormones, including gastrin and secretin (cholecystokinin is not insulinotropic in man), are insulinotropic, but the only physiologically important ones, those that are responsible for the incretin effect, are the glucose-dependent insulinotropic polypeptide, GIP, and glucagon-like peptide-1 (GLP-1). Because of its insulinotropic effect, GIP, isolated in 1973 (1) immediately attracted considerable interest among diabetologists. However, numerous investigations carried

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out during the following years clearly indicated that a defective secretion of GIP was not involved in the pathogenesis of insulin dependent diabetes mellitus (IDDM) or non insulindependent diabetes mellitus (NIDDM) (2). Furthermore, as an insulinotropic hormone, GIP was found to be almost ineffective in NIDDM (2). The other incretin hormone, GLP-1 is the most potent insulinotropic substance known (3). Unlike GIP, it is surprisingly effective in stimulating insulin secretion in NIDDM patients. In addition, and in contrast to the other insulinotropic hormones (perhaps with the exception of secretin) it also potently inhibits glucagon secretion. Because of these actions it has pronounced blood glucose lowering effects particularly in patients with NIDDM.

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GLP-1, a product of the proglucagon (4), is one of the youngest members of the secretin-VIP family of peptides, but is already established as an important gut hormone with regulatory function in glucose metabolism and gastrointestinal secretion and metabolism (5). The glucagon gene is processed differently in the pancreas and in the intestine. In the pancreas (9), the processing leads to the formation and parallel secretion of 1) glucagon itself, occupying positions 33-61 of proglucagon (PG); 2) an N-terminal peptide of 30 amino acids (PG (1-30)) often called glicentin-related pancreatic peptide, GRPP (10, 11); 3) a hexapeptide corresponding to PG (64-69); 4) and, finally, the so-called major proglucagon fragment (PG (72-158)), in which the two glucagon-like sequences are buried (9). Glucagon seems to be the only biologically active product. In contrast, in the intestinal mucosa, it is glucagon that is buried in a larger molecule, while the two glucagon-like peptides are formed separately (8). The following products are formed and secreted in parallel: 1) glicentin, corresponding to PG (1-69), with the glucagon sequence occupying residues Nos. 33-61 (12); 2) GLP-1(7-36)amide (PG (78-107))amide (13), not as originally believed PG (72-107)amide or 108, which is inactive). Small amounts of C-terminally glycine-extended but equally bioactive GLP-1(7-37), (PG (78-108)) are also formed (14); 3) intervening peptide-2 (PG (111-122)amide) (15); and 4) GLP-2 (PG (126-158)) (15, 16). A fraction of glicentin is cleaved further into GRPP (PG (1-30)) and oxyntomodulin (PG (33-69)) (17, 18). Of these peptides, GLP-1, has the most conspicuous biological activities.

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Being secreted in parallel with glicentin/enteroglucagon, it follows that the many studies of enteroglucagon secretion (6, 7) to some extent also apply to GLP-1 secretion, but GLP-1 is metabolised more quickly with a plasma half-life in humans of 2 min (19). Carbohydrate or fat-rich meals stimulate secretion (20), presumably as a result of direct interaction of yet unabsorbed nutrients with the microvilli of the open-type L-cells of the gut mucosa. En-

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docrine or neural mechanisms promoting GLP-1 secretion may exist but have not yet been demonstrated in humans.

The incretin function of GLP-1(29-31) has been clearly illustrated in experiments with the GLP-1 receptor antagonist, exendin 9-39, which dramatically reduces the incretin effect elicited by oral glucose in rats (21, 22). The hormone interacts directly with the β-cells via the GLP-1 receptor (23) which belongs to the glucagon/VIP/calcitonin family of G-proteincoupled 7-transmembrane spanning receptors. The importance of the GLP-1 receptor in regulating insulin secretion was illustrated in recent experiments in which a targeted disruption of the GLP-1 receptor gene was carried out in mice. Animals homozygous for the disruption had greatly deteriorated glucose tolerance and fasting hyperglycaemia, and even heterozygous animals were glucose intolerant (24). The signal transduction mechanism (25) primarily involves activation of adenylate cyclase, but elevations of intracellular Ca²⁺ are also essential (25, 26). The action of the hormone is best described as a potentiation of glucose stimulated insulin release (25), but the mechanism that couples glucose and GLP-1 stimulation is not known. It may involve a calcium-induced calcium release (26, 27). As already mentioned, the insulinotropic action of GLP-1 is preserved in diabetic β-cells. The relation of the latter to its ability to convey "glucose competence" to isolated insulin-secreting cells (26, 28), which respond poorly to glucose or GLP-1 alone, but fully to a combination of the two, is also not known. Equally importantly, however, the hormone also potently inhibits glucagon secretion (29). The mechanism is not known, but seems to be paracrine, via neighbouring 20 insulin or somatostatin cells (25). Also the glucagonostatic action is glucose-dependent, so that the inhibitory effect decreases as blood glucose decreases. Because of this dual effect, if the plasma GLP-1 concentrations increase either by increased secretion or by exogenous infusion the molar ratio of insulin to glucagon in the blood that reaches the liver via the portal

circulation is greatly increased, whereby hepatic glucose production decreases (30). As a 25 result blood glucose concentrations decrease. Because of the glucose dependency of the insulinotropic and glucagonostatic actions, the glucose lowering effect is self-limiting, and the hormone, therefore, does not cause hypoglycaemia regardless of dose (31). The effects are preserved in patients with diabetes mellitus (32), in whom infusions of slightly supraphysiolo-

gical doses of GLP-1 may completely normalise blood glucose values in spite of poor meta-30 bolic control and secondary failure to sulphonylurea (33). The importance of the glucagonostatic effect is illustrated by the finding that GLP-1 also lowers blood glucose in type-1 diabetic patients without residual B-cell secretory capacity (34).

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In addition to its effects on the pancreatic islets, GLP-1 has powerful actions on the gastrointestinal tract. Infused in physiological amounts, GLP-1 potently inhibits pentagastrininduced as well as meal-induced gastric acid secretion (35, 36). It also inhibits gastric emptying rate and pancreatic enzyme secretion (36). Similar inhibitory effects on gastric and pancreatic secretion and motility may be elicited in humans upon perfusion of the ileum with carbohydrate- or lipid-containing solutions (37, 38). Concomitantly, GLP-1 secretion is greatly stimulated, and it has been speculated that GLP-1 may be at least partly responsible for this so-called "ileal-brake" effect (38). In fact, recent studies suggest that, physiologically, the ileal-brake effects of GLP-1 may be more important than its effects on the pancreatic islets. Thus, in dose response studies GLP-1 influences gastric emptying rate at infusion rates at least as low as those required to influence islet secretion (39).

GLP-1 seems to have an effect on food intake. Intraventricular administration of GLP-1 profoundly inhibits food intake in rats (40, 42). This effect seems to be highly specific. Thus, N-terminally extended GLP-1 (PG 72-107) amide is inactive and appropriate doses of the GLP-1 antagonist, exendin 9-39, abolish the effects of GLP-1 (41). Acute, peripheral administration of GLP-1 does not inhibit food intake acutely in rats (41, 42). However, it remains possible that GLP-1 secreted from the intestinal L-cells may also act as a satiety signal.

Not only the insulinotropic effects but also the effects of GLP-1 on the gastrointestinal tract are preserved in diabetic patients (43), and may help curtailing meal-induced gluco-20 se excursions, but, more importantly, may also influence food intake. Administered intravenously, continuously for one week, GLP-1 at 4 ng/kg/min has been demonstrated to dramatically improve glycaemic control in NIDDM patients without significant side effects (44). The peptide is fully active after subcutaneous administration (45), but is rapidly degraded mainly due to degradation by dipeptidyl peptidase IV-like enzymes (46, 47).

The amino acid sequence of GLP-1 is given i.a. by Schmidt et al. (Diabetologia 28 704-707 (1985). Human GLP-1 is a 37 amino acid residue peptide originating from preproglucagon which is synthesised, i.a. in the L-cells in the distal ileum, in the pancreas and in the brain. Processing of preproglucagon to GLP-1(7-36)amide, GLP-1(7-37) and GLP-2 occurs mainly in the L-cells. Although the interesting pharmacological properties of GLP-1(7-37) and analogues thereof have attracted much attention in recent years only little is known about the structure of these molecules. The secondary structure of GLP-1 in micelles has been described by Thorton et al. (Biochemistry 33 3532-3539 (1994)), but in normal solution, GLP-1 is considered a very flexible molecule. Surprisingly, we found that derivatisation of this relati-

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vely small and very flexible molecule resulted in compounds whose plasma profile were highly protracted and still had retained activity.

GLP-1 and analogues of GLP-1 and fragments thereof are useful i.a. in the treatment of Type 1 and Type 2 diabetes and obesity.

WO 87/06941 discloses GLP-1 fragments, including GLP-1(7-37), and functional derivatives thereof and to their use as an insulinotropic agent.

WO. 90/11296 discloses GLP-1 fragments, including GLP-1(7-36), and functional derivatives thereof which have an insulinotropic activity which exceeds the insulinotropic activity of GLP-1(1-36) or GLP-1(1-37) and to their use as insulinotropic agents.

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The amino acid sequence of GLP-1 (7-36) and GLP-1 (7-37) is:

7 8 9 10 11 12 13 14 15 16 17 His-Ala-Glu-Gly-Thr-Phe-Thr-Ser-Asp-Val-Ser-

25 26 20 21 22 23 24 18 19 Ser-Tyr-Leu-Glu-Gly-Gln-Ala-Ala-Lys-Glu-Phe-

31 32 33 35 36 29 30 34 Ile-Ala-Trp-Leu-Val-Lys-Gly-Arg-X (I)

wherein X is NH₂ for GLP-1(7-36) and X is Gly for GLP-1(7-37). 20

WO 91/11457 discloses analogues of the active GLP-1 peptides 7-34, 7-35, 7-36, and 7-37 which can also be useful as GLP-1 moieties.

Unfortunately, the high clearance limits the usefulness of these compounds. Thus there still is a need for improvements in this field. Accordingly, it is an object of the present invention to provide derivatives of GLP-1 and analogues thereof which have a protracted profile of 25 action relative to GLP-1(7-37). It is a further object of the invention to provide derivatives of GLP-1 and analogues thereof which have a lower clearance than GLP-1(7-37). It is a further object of the invention to provide a pharmaceutical composition comprising a compound of the invention and to use a compound of the invention to provide such a composition. Also, it is an

object of the present invention to provide a method of treating insulin dependent and non-30 insulin dependent diabetes mellitus.

References.

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- 1. Pederson RA. Gastric Inhibitory Polypeptide. In Walsh JH, Dockray GJ (eds) Gut peptides: Biochemistry and Physiology. Raven Press, New York 1994, pp. 217259.
- 2. Krarup T. Immunoreactive gastric inhibitory polypeptide. Endocr Rev 1988;9:122-134.
- 3. Ørskov C. Glucagon-like peptide-1, a new hormone of the enteroinsular axis. Diabetologia 1992; 35:701-711.
- 4. Bell GI, Sanchez-Pescador R, Laybourn PJ, Najarian RC. Exon duplication and divergence in the human preproglucagon gene. Nature 1983; 304: 368-371.
- 5. Holst JJ. Glucagon-like peptide-1 (GLP-1) a newly discovered GI hormone. Gastroenterology 1994; 107: 1848-1855.
- 10 6. Holst JJ. Gut glucagon, enteroglucagon, gut GLI, glicentin current status. Gastroenterology 1983;84:1602-1613.
 - Holst JJ, Ørskov C. Glucagon and other proglucagon-derived peptides. In Walsh JH, Dockray GJ, eds. Gut peptides: Biochemistry and Physiology. Raven Press, New York, pp. 305-340, 1993.
 - Ørskov C, Holst JJ, Knuhtsen S, Baldissera FGA, Poulsen SS, Nielsen OV. Glucagon-like peptides GLP-1 and GLP-2, predicted products of the glucagon gene, are secreted separately from the pig small intestine, but not pancreas. Endocrinology 1986;119:1467-1475.
 - 9. Holst JJ, Bersani M, Johnsen AH, Kofod H, Hartmann B, Ørskov C. Proglucagon processing in porcine and human pancreas. J Biol Chem, 1994; 269: 18827-1883.
 - 10. Moody AJ, Holst JJ, Thim L, Jensen SL. Relationship of glicentin to proglucagon and glucagon in the porcine pancreas. Nature 1981; 289: 514-516.
 - 11. Thim L, Moody AJ, Purification and chemical characterisation of a glicentin-related pancreatic peptide (proglucagon fragment) from porcine pancreas. Biochim Biophys Acta 1982;703:134-141.
 - 12. Thim L, Moody AJ. The primary structure of glicentin (proglucagon). Regul Pept 1981;2:139-151.
 - Ørskov C, Bersani M, Johnsen AH, Højrup P, Holst JJ. Complete sequences of glucagon-like peptide-1 (GLP-1) from human and pig small intestine. J. Biol. Chem. 1989;264:12826-12829.
 - Ørskov C, Rabenhøj L, Kofod H, Wettergren A, Holst JJ. Production and secretion of amidated and glycine-extended glucagon-like peptide-1 (GLP-1) in man. Diabetes 1991; 43: 535-539.

15

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- 15. Buhl T, Thim L, Kofod H, Ørskov C, Harling H, & Holst JJ: Naturally occurring products of proglucagon 111-160 in the porcine and human small intestine. J. Biol. Chem. 1988;263:8621-8624.
- 16. Ørskov C, Buhl T, Rabenhøj L, Kofod H, Holst JJ: Carboxypeptidase-B-like processing of the C-terminus of glucagon-like peptide-2 in pig and human small intestine. FEBS letters, 1989;247:193-106.
- 17. Holst JJ. Evidence that enteroglucagon (II) is identical with the C-terminal sequence (residues 33-69) of glicentin. Biochem J. 1980;187:337-343.
- 18. Bataille D, Tatemoto K, Gespach C, Jörnvall H, Rosselin G, Mutt V. Isolation of gluca-
- gon-37 (bioactive enteroglucagon/oxyntomodulin) from porcine jejuno-ileum. Characterisation of the peptide. FEBS Lett 1982;146:79-86.
- 19. Ørskov C, Wettergren A, Holst JJ. The metabolic rate and the biological effects of GLP-1 7-36amide and GLP-1 7-37 in healthy volunteers are identical. Diabetes 1993;42:658-661.
- 15 20. Elliott RM, Morgan LM, Tredger JA, Deacon S, Wright J, Marks V. Glucagon-like peptide-1 (7-36)amide and glucose-dependent insulinotropic polypeptide secretion in response to nutrient ingestion in man: acute post-prandial and 24-h secretion patterns. J Endocrinol 1993; 138: 159-166.
 - 21. Kolligs F, Fehmann HC, Göke R, Göke B. Reduction of the incretin effect in rats by the glucagon-like peptide-1 receptor antagonist exendin (9-39)amide. Diabetes 1995; 44: 16-19.
 - 22. Wang Z, Wang RM, Owji AA, Smith DM, Ghatei M, Bloom SR. Glucagon-like peptide-1 is a physiological incretin in rat. J. Clin. Invest. 1995; 95: 417-421.
 - 23. Thorens B. Expression cloning of the pancreatic b cell receptor for the gluco-incretin hormone glucagon-like peptide 1. Proc Natl Acad Sci 1992;89:8641-4645.
 - 24. Scrocchi L, Auerbach AB, Joyner AL, Drucker DJ. Diabetes in mice with targeted disruption of the GLP-1 receptor gene. Diabetes 1996; 45: 21A.
 - 25. Fehmann HC, Göke R, Göke B. Cell and molecular biology of the incretin hormones glucagon-like peptide-I (GLP-1) and glucose-dependent insulin releasing polypeptide (GIP). Endocrine Reviews, 1995; 16: 390-410.
 - Gromada J, Dissing S, Bokvist K, Renström E, Frøkjær-Jensen J, Wulff BS, Rorsman P. Glucagon-like peptide I increases cytoplasmic calcium in insulin-secreting bTC3-cells by enhancement of intracellular calcium mobilisation. Diabetes 1995; 44: 767-774.

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- 27. Holz GG, Leech CA, Habener JF. Activation of a cAMP-regulated Ca²⁺-signaling pathway in pancreatic β-cells by the insulinotropic hormone glucagon-like peptide-1. J Biol Chem, 1996; 270: 17749-17759.
- 28. Holz GG, Kühltreiber WM, Habener JF. Pancreatic beta-cells are rendered glucose competent by the insulinotropic hormone glucagon-like peptide-1(7-37). Nature 1993;361:362-365.
- 29. Ørskov C, Holst JJ, Nielsen OV: Effect of truncated glucagon-like peptide-1 (proglucagon 78-107 amide) on endocrine secretion from pig pancreas, antrum and stomach. Endocrinology 1988;123:2009-2013.
- 10 30. Hvidberg A, Toft Nielsen M, Hilsted J, Ørskov C, Holst JJ. Effect of glucagon-like peptide-1 (proglucagon 78-107amide) on hepatic glucose production in healthy man. Metabolism 1994;43:104-108.
 - Qualmann C, Nauck M, Holst JJ, Ørskov C, Creutzfeldt W. Insulinotropic actions of intravenous glucagon-like peptide-1 [7-36 amide] in the fasting state in healthy subjects. Acta Diabetologica, 1995; 32: 13-16.
 - Nauck MA, Heimesaat MM, Ørskov C, Holst JJ, Ebert R, Creutzfeldt W. Preserved incretin activity of GLP-1(7-36amide) but not of synthetic human GIP in patients with type 2-diabetes mellitus. J Clin Invest 1993;91:301-307.
 - Nauck MA, Kleine N, Ørskov C, Holst JJ, Willms B, Creutzfeldt W. Normalisation of fasting hyperglycaemia by exogenous GLP-1(7-36amide) in type 2-diabetic patients. Diabetologia 1993;36:741-744.
 - Creutzfeldt W, Kleine N, Willms B, Ørskov C, Holst JJ, Nauck MA. Glucagonostatic actions and reduction of fasting hyperglycaemia by exogenous glucagon-liem, peptide-1(7-36amide) in type I diabetic patients. Diabetes Care 1996; 19: 580-586.
- 25 35. Schjoldager BTG, Mortensen PE, Christiansen J, Ørskov C, Holst JJ. GLP-1 (glucagon-like peptide-1) and truncated GLP-1, fragments of human proglucagon, inhibit gastric acid secretion in man. Dig. Dis. Sci. 1989; 35:703-708.
 - Wettergren A, Schjoldager B, Mortensen PE, Myhre J, Christiansen J, Holst JJ. Truncated GLP-1 (proglucagon 72-107amide) inhibits gastric and pancreatic functions in man. Dig Dis Sci 1993;38:665-673.
 - Layer P, Holst JJ, Grandt D, Goebell H: Ileal release of glucagon-like peptide-1 (GLP-1): association with inhibition of gastric acid in humans. Dig Dis Sci 1995; 40: 1074-1082.

- 38. Layer P, Holst JJ. GLP-1: A humoral mediator of the ileal brake in humans? Digestion 1993; 54: 385-386.
- 39. Nauck M, Ettler R, Niedereichholz U, Ørskov C, Holst JJ, Schmiegel W. Inhibition of gastric emptying by GLP-1(7-36 amide) or (7-37): effects on postprandial glycaemia and insulin secretion. Abstract. Gut 1995; 37 (suppl. 2): A124.
- Schick RR, vorm Walde T, Zimmermann JP, Schusdziarra V, Classen M. Glucagon-like peptide 1 - a novel brain peptide involved in feeding regulation. in Ditschuneit H, Gries FA, Hauner H, Schusdziarra V, Wechsler JG (eds.) Obesity in Europe. John Libbey & Company itd, 1994; pp. 363-367.
- Tang-Christensen M, Larsen PJ, Göke R, Fink-Jensen A, Jessop DS, Møller M, Sheikh S. Brain GLP-1(7-36) amide receptors play a major role in regulation of food and water intake. Am. J. Physiol., 1996, in press.
 - 42. Turton MD, O'Shea D, Gunn I, Beak SA, Edwards CMB, Meeran K, et al. A role for glucagon-like peptide-1 in the regulation of feeding. Nature 1996; 379: 69-72.
- 15 43. Willms B, Werner J, Creutzfeldt W, Ørskov C, Holst JJ, Nauck M. Inhibition of gastric emptying by glucagon-like peptide-1 (7-36 amide) in patients with type-2-diabetes mellitus. Diabetologia 1994; 37, suppl.1: A118.
 - 44. Larsen J, Jallad N, Damsbo P. One-week continuous infusion of GLP-1(7-37) improves glycaemic control in NIDDM. Diabetes 1996; 45, suppl. 2: 233A.
- 20 45. Ritzel R, Ørskov C, Holst JJ, Nauck MA. Pharmacokinetic, insulinotropic, and glucagonostatic properties of GLP-1 [7-36 amide] after subcutaneous injection in healthy volunteers. Dose-response relationships. Diabetologia 1995; 38: 720-725.
 - 46. Deacon CF, Johnsen AH, Holst JJ. Degradation of glucagon-like peptide-1 by human plasma in vitro yields an N-terminally truncated peptide that is a major endogenous metabolite in vivo. J Clin Endocrinol Metab 1995; 80: 952-957.
 - 47. Deacon CF, Nauck MA, Toft-Nielsen M, Pridal L, Willms B, Holst JJ. 1995. Both subcutaneous and intravenously administered glucagon-like peptide-1 are rapidly degraded from the amino terminus in type II diabetic patients and in healthy subjects. Diabetes 44: 1126-1131.

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SUMMARY OF THE INVENTION

The present invention relates to derivatives of GLP-1 analogues of formula I:

7 8 9 10 11 12 13 14 15 16 17

His-Xaa-Xaa-Gly-Xaa-Phe-Thr-Xaa-Asp-Xaa-Xaa-

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18 19· 20 21 22 23 24 25 26 27 28 Xaa-Xaa-Xaa-Xaa-Xaa-Xaa-Xaa-Xaa-Xaa-Phe-29 30 31 32 33 34 35 36 37 38 Ile-Xaa-Xaa-Xaa-Xaa-Xaa-Xaa-Xaa-Xaa 39 40 41 42 43 44 45 Xaa-Xaa-Xaa-Xaa-Xaa-Xaa **(I)** wherein Xaa at position 8 is Ala, Gly, Ser, Thr, Leu, Ile, Val, Glu, Asp, or Lys, Xaa at position 9 is Glu, Asp, or Lys, Xaa at position 11 is Thr, Ala, Gly, Ser, Leu, Ile, Val, Glu, Asp, or Lys, Xaa at position 14 is Ser, Ala, Gly, Thr, Leu, Ile, Val, Glu, Asp, or Lys, Xaa at position 16 is Val, Ala, Gly, Ser, Thr, Leu, Ile, Tyr, Glu, Asp, or Lys, Xaa at position 17 is Ser, Ala, Gly, Thr, Leu, Ile, Val, Glu, Asp, or Lys, Xaa at position 18 is Ser, Ala, Gly, Thr, Leu, Ile, Val, Glu, Asp, or Lys, Xaa at position 19 is Tyr, Phe, Trp, Glu, Asp, or Lys, Xaa at position 20 is Leu, Ala, Gly, Ser, Thr, Leu, Ile, Val, Glu, Asp, or Lys, Xaa at position 21 is Glu, Asp, or Lys, Xaa at position 22 is Gly, Ala, Ser, Thr, Leu, Ile, Val, Glu, Asp, or Lys, Xaa at position 23 is Gln, Asn, Arg, Glu, Asp, or Lys, Xaa at position 24 is Ala, Gly, Ser, Thr, Leu, Ile, Val, Arg, Glu, Asp, or Lys, ----Xaa at position 25 is Ala, Gly, Ser, Thr, Leu, Ile, Val, Glu, Asp, or Lys, Xaa at position 26 is Lys, Arg, Gln, Glu, Asp, or His, Xaa at position 27 is Glu, Asp, or Lys, Xaa at position 30 is Ala, Gly, Ser, Thr, Leu, Ile, Val, Glu, Asp, or Lys, Xaa at position 31 is Trp, Phe, Tyr, Glu, Asp, or Lys, Xaa at position 32 is Leu, Gly, Ala, Ser, Thr, Ile, Val, Glu, Asp, or Lys, Xaa at position 33 is Val, Gly, Ala, Ser, Thr, Leu, Ile, Glu, Asp, or Lys, Xaa at position 34 is Lys, Arg, Glu, Asp, or His, Xaa at position 35 is Gly, Ala, Ser, Thr, Leu, Ile, Val, Glu, Asp, or Lys, Xaa at position 36 is Arg, Lys, Glu, Asp, or His,

Xaa at position 37 is Gly, Ala, Ser, Thr, Leu, Ile, Val, Glu, Asp, or Lys, or is deleted,

Xaa at position 38 is Arg, Lys, Glu, Asp, or His, or is deleted,

Xaa at position 39 is Arg, Lys, Glu, Asp, or His, or is deleted,

Xaa at position 40 is Asp, Glu, or Lys, or is deleted,

Xaa at position 41 is Phe, Trp, Tyr, Glu, Asp, or Lys, or is deleted,

Xaa at position 42 is Pro, Lys, Glu, or Asp, or is deleted,

Xaa at position 43 is Glu, Asp, or Lys, or is deleted,

Xaa at position 44 is Glu, Asp, or Lys, or is deleted, and

Xaa at position 45 is Val, Glu, Asp, or Lys, or is deleted, or

10 (a) a C-1-6-ester thereof, (b) amide, C-1-6-alkylamide, or C-1-6-dialkylamide thereof and/or (c) a pharmaceutically acceptable salt thereof,

provided that

(i) when the amino acid at position 37, 38, 39, 40, 41, 42, 43 or 44 is deleted, then each amino acid downstream of the amino acid is also deleted,

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(ii) the derivative of the GLP-1 analog contains only one or two Lys,

(iii) the ϵ -amino group of one or both Lys is substituted with a lipophilic substituent optionally via a spacer,

(iv) the total number of different amino acids between the derivative of the GLP-1 analog and the corresponding native form of GLP-1 does not exceed six.

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DETAILED DESCRIPTION OF THE INVENTION

A simple system is used to describe fragments and analogues of GLP-1. For example, Gly⁸-GLP-1(7-37) designates a fragment of GLP-1 formally derived from GLP-1 by deleting the amino acid residues Nos. 1 to 6 and substituting the naturally occurring amino acid residue in position 8 (Ala) by Gly. Similarly, Lys³⁴(N^s-tetradecanoyl)-GLP-1(7-37) designates GLP-1(7-37) wherein the ε -amino group of the Lys residue in position 34 has been tetradecanoylated. Where reference in this text is made to C-terminally extended GLP-1 analogues, the amino acid residue in position 38 is Arg unless otherwise indicated, the optional amino acid residue in position 39 is also Arg unless otherwise indicated and the optional amino acid residue in positi-

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on 40 is Asp unless otherwise indicated. Also, if a C-terminally extended analogue extends to position 41, 42, 43, 44 or 45, the amino acid sequence of this extension is as in the corresponding sequence in human preproglucagon unless otherwise indicated.

GLP-1 Analogs

The present invention relates to derivatives of GLP-1 analogues. The derivatives of the invention have interesting pharmacological properties, in particular they have a more protracted profile of action than the parent peptides.

In the present text, the designation "an analogue" is used to designate a peptide wherein one or more amino acid residues of the parent peptide have been substituted by another amino acid residue.

The total number of different amino acids between the derivative of the GLP-1 analog and the corresponding native form of GLP-1 does not exceed six. Preferably, the number of different amino acids is five. More preferably, the number of different amino acids is four. Even more preferably, the number of different amino acids is three. Even more preferably, the number of different amino acids is two. Most preferably, the number of different amino acids is one. In order to determine the number of different amino acids, one should compare the amino acid sequence of the derivative of the GLP-1 analog of the present invention with the corresponding native GLP-1. For example, there are two different amino acids between the derivative Gly⁸Arg²⁶Lys³⁴(N^e-(7-deoxycholoyI))-GLP-1(7-40) and the corresponding native GLP-1 (i.e., GLP-1(7-40)). The differences are located at positions 8 and 26. Similarly, there is only different amino acid between the derivative Lys²⁶(N^e-(7-deoxycholoyI))Arg³⁴-GLP-1(7-40) and the corresponding native GLP-1. The difference is located at position 34.

The derivatives of the GLP-1 analogs of the present invention have only one or two Lys. The ε-amino group of one or both Lys is substituted with a lipophilic substituent, Preferably, the derivatives of the GLP-1 analogs of the present invention have only one Lys. In a more preferred embodiment, there is only one Lys which is located at the carboxy terminus of the derivative of the GLP-1 analogs. In an even more preferred embodiment, the derivatives of the GLP-1 analogs of the present invention have only one Lys and Glu or Asp is adjacent to Lys.

> In a preferred embodiment, the amino acids at positions 37-45 are absent. In another preferred embodiment, the amino acids at positions 38-45 are absent. In another preferred embodiment, the amino acids at positions 39-45 are absent. In another preferred embodiment, Xaa at position 8 is Ala, Gly, Ser, Thr, or Val. In another preferred embodiment, Xaa at position 9 is Glu.

In another preferred embodiment, Xaa at position 11 is Thr. In another preferred embodiment, Xaa at position 14 is Ser. In another preferred embodiment, Xaa at position 16 is Val. In another preferred embodiment, Xaa at position 17 is Ser.

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In another preferred embodiment, Xaa at position 18 is Ser, Lys, Glu, or Asp. In another preferred embodiment, Xaa at position 19 is Tyr, Lys, Glu, or Asp. In another preferred embodiment, Xaa at position 20 is Leu., Lys, Glu, or Asp. In another preferred embodiment, Xaa at position 21 is Glu, Lys, or Asp. In another preferred embodiment, Xaa at position 22 is Gly, Glu, Asp, or Lys. In another preferred embodiment, Xaa at position 23 is Gln, Glu, Asp, or Lys. In another preferred embodiment, Xaa at position 24 is Ala, Glu, Asp, or Lys. In another preferred embodiment, Xaa at position 25 is Ala, Glu, Asp, or Lys. In another preferred embodiment, Xaa at position 26 is Lys, Glu, Asp, or Arg. In another preferred embodiment, Xaa at position 27 is Glu, Asp, or Lys. In another preferred embodiment, Xaa at position 30 is Ala, Glu, Asp, or Lys. In another preferred embodiment, Xaa at position 31 is Trp, Glu, Asp, or Lys. In another preferred embodiment, Xaa at position 32 is Leu, Glu, Asp, or Lys. In another preferred embodiment, Xaa at position 33 is Val, Glu, Asp, or Lys. In another preferred embodiment, Xaa at position 34 is Lys, Arg, Glu, or Asp. In another preferred embodiment, Xaa at position 35 is Gly, Glu, Asp, or Lys. In another preferred embodiment, Xaa at position 36 is Arg, Lys, Glu, or Asp. In another preferred embodiment, Xaa at position 37 is Gly, Glu, Asp, or Lys.

In another preferred embodiment, Xaa at position 38 is Arg, or Lys, or is deleted.

In another preferred embodiment, Xaa at position 39 is deleted. In another preferred embodiment, Xaa at position 40 is deleted. In another preferred embodiment, Xaa at position 41 is deleted. In another preferred embodiment, Xaa at position 42 is deleted.

In another preferred embodiment, Xaa at position 43 is deleted.

In another preferred embodiment, Xaa at position 44 is deleted.

In another preferred embodiment, Xaa at position 45 is deleted.

In another preferred embodiment, Xaa at position 26 is Arg, each of Xaa at positions 37-45 is deleted, and each of the other Xaa is the amino acid in native GLP-1(7-36).

In another preferred embodiment, Xaa at position 26 is Arg, each of Xaa at positions 38-45 is deleted, and each of the other Xaa is the amino acid in native GLP-1(7-37).

In another preferred embodiment, Xaa at position 26 is Arg, each of Xaa at positions 39-45 is deleted, and each of the other Xaa is the amino acid in native GLP-1(7-38).

In another preferred embodiment, Xaa at position 34 is Arg, each of Xaa at positions 37-45 is deleted, and each of the other Xaa is the amino acid in native GLP-1(7-36).

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In another preferred embodiment, Xaa at position 34 is Arg, each of Xaa at positions 38-45 is deleted, and each of the other Xaa is the amino acid in native GLP-1(7-37).

In another preferred embodiment, Xaa at position 34 is Arg, each of Xaa at positions 39-45 is deleted, and each of the other Xaa is the amino acid in native GLP-1(7-38).

In another preferred embodiment, Xaa at positions 26 and 34 is Arg, Xaa at position 36 is Lys, each of Xaa at positions 37-45 is deleted, and each of the other Xaa is the amino acid in native GLP-1(7-36).

In another preferred embodiment, Xaa at positions 26 and 34 is Arg, Xaa at position 36 is Lys, each of Xaa at positions 38-45 is deleted, and each of the other Xaa is the amino acid in native GLP-1(7-37).

In another preferred embodiment, Xaa at positions 26 and 34 is Arg, Xaa at position 36 is Lys, each of Xaa at positions 39-45 is deleted, and each of the other Xaa is the amino acid in native GLP-1(7-38).

In another preferred embodiment, Xaa at positions 26 and 34 is Arg, Xaa at position 38 is Lys, each of Xaa at positions 39-45 is deleted, and each of the other Xaa is the amino acid in native GLP-1(7-38).

In another preferred embodiment, Xaa at position 8 is Thr, Ser, Gly or Val, Xaa at position 37 is Glu, Xaa at position 36 is Lys, each of Xaa at positions 38-45 is deleted, and each of the other Xaa is the amino acid in native GLP-1(7-37).

In another preferred embodiment, Xaa at position 8 is Thr, Ser, Gly or Val, Xaa at position 37 is Glu, Xaa at position 36 is Lys, each of Xaa at positions 39-45 is deleted, and each of the other Xaa is the amino acid in native GLP-1(7-38).

In another preferred embodiment, Xaa at position 8 is Thr, Ser, Gly or Val, Xaa at position 37 is Glu, Xaa at position 38 is Lys, each of Xaa at positions 39-45 is deleted, and each of the other Xaa is the amino acid in native GLP-1(7-38).

In another preferred embodiment, Xaa at position 18, 23 or 27 is Lys, and Xaa at positions 26 and 34 is Arg, each of Xaa at positions 37-45 is deleted, and each of the other Xaa is the amino acid in native GLP-1(7-36).

In another preferred embodiment, Xaa at position 18, 23 or 27 is Lys, and Xaa at positions 26 and 34 is Arg, each of Xaa at positions 38-45 is deleted, and each of the other Xaa is the amino acid in native GLP-1(7-37).

In another preferred embodiment, Xaa at position 18, 23 or 27 is Lys, and Xaa at positions 26 and 34 is Arg, each of Xaa at positions 39-45 is deleted, and each of the other Xaa is the amino acid in native GLP-1(7-38).

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In another preferred embodiment, Xaa at position 8 is Thr, Ser, Gly, or Val, Xaa at position 18, 23 or 27 is Lys, and Xaa at position 26 and 34 is Arg, each of Xaa at positions 37-45 is deleted, and each of the other Xaa is the amino acid in native GLP-1(7-36).

In another preferred embodiment, Xaa at position 8 is Thr, Ser, Gly, or Val, Xaa at position 18, 23 or 27 is Lys, and Xaa at position 26 and 34 is Arg, each of Xaa at positions 38-45 is deleted, and each of the other Xaa is the amino acid in native GLP-1(7-37).

In another preferred embodiment, Xaa at position 8 is Thr, Ser, Gly, or Val, Xaa at position 18, 23 or 27 is Lys, and Xaa at position 26 and 34 is Arg, each of Xaa at positions 39-45 is deleted, and each of the other Xaa is the amino acid in native GLP-1(7-38).

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Derivatives

The term "derivative" is defined as a modification of one or more amino acid residues of a peptide by chemical means, either with or without an enzyme, *e.g.*, by alkylation, acylation, ester formation, or amide formation.

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Lipophilic Substituents

To obtain a satisfactory protracted profile of action of the GLP-1 derivative, the lipophilic substituent attached to the GLP-1 moiety preferably comprises 4-40 carbon atoms, in particular 8-25 carbon atoms. The lipophilic substituent may be attached to an amino group of the GLP-1 moiety by means of a carboxyl group of the lipophilic substituent which forms an amide bond with an amino group of the amino acid residue to which it is attached.

In one preferred embodiment of the invention, the lipophilic substituent is attached to the GLP-1 moiety by means of a spacer in such a way that a carboxyl group of the spacer forms an amide bond with an amino group of the GLP-1 moiety. In a preferred embodiment, the spacer is an α, ω -amino acid Examples of suitable spacers are succinic acid, Lys, Glu or Asp, or a dipeptide such as Gly-Lys. When the spacer is succinic acid, one carboxyl group thereof may form an amide bond with an amino group of the amino acid residue, and the other carboxyl group thereof may form an amide bond with an amino group of the amino group of the lipophilic substituent. When the spacer is Lys, Glu or Asp, the carboxyl group thereof may form an amide bond with an amino group of the amino group thereof may form an amide bond with an amino group of the lipophilic substituent. When the spacer is Lys, Glu or Asp, the carboxyl group thereof may form an amide bond with a carboxyl group of the lipophilic substituent. When the spacer may in some instances be inserted between the ε -amino group of Lys and the lipophilic substituent. In one preferred embodiment, such a further spacer is succinic acid which forms an amide bond with the ε -amino group of Lys and with an amino group of succinic acid which forms an amide bond with the ε -amino group of Lys and with an amino group of bond with the ε -amino group of Lys and with an amino group of bond with the ε -amino group of Lys and with an amino group of bond with the ε -amino group of Lys and with an amino group of bond with the ε -amino group of Lys and with an amino group of bond with the ε -amino group of Lys and with an amino group of Lys and with

present in the lipophilic substituent. In another preferred embodiment such a further spacer is Glu or Asp which forms an amide bond with the ε -amino group of Lys and another amide bond with a carboxyl group present in the lipophilic substituent, that is, the lipophilic substituent is a N^z-acylated lysine residue. Other preferred spacers are N^z-(γ -L-glutamyl), N^z-(β -L-asparagyl), N^z-glycyl, and N^z-(α -(γ -aminobutanovl).

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In another preferred embodiment of the present invention, the lipophilic substituent has a group which can be negatively charged. One preferred group which can be negatively charged is a carboxylic acid group.

In a further preferred embodiment, the lipophilic substituent comprises from 4 to 40 carbon atoms, more preferred from 8 to 25 carbon atoms.

In a further preferred embodiment, the lipophilic substituent is attached to the parent peptide by means of a spacer which is an unbranched alkane α, ω -dicarboxylic acid group having from 1 to 7 methylene groups, preferably two methylene groups which spacer forms a bridge between an amino group of the parent peptide and an amino group of the lipophilic substituent.

In a further preferred embodiment, the lipophilic substituent is attached to the parent peptide by means of a spacer which is an amino acid residue except Cys, or a dipeptide such as Gly-Lys. In the present text, the expression "a dipeptide such as Gly-Lys" is used to designate a dipeptide wherein the C-terminal amino acid residue is Lys, His or Trp, preferably Lys, and wherein the N-terminal amino acid residue is selected from the group comprising Ala, Arg, Asp, Asn, Gly, Glu, Gln, Ile, Leu, Val, Phe and Pro.

In a further preferred embodiment, the lipophilic substituent is attached to the parent peptide by means of a spacer which is an amino acid residue except Cys, or is a dipeptide such as Gly-Lys and wherein an amino group of the parent peptide forms an amide bond with a carboxylic group of the amino acid residue or dipeptide spacer, and an amino group of the amino acid residue or dipeptide spacer, and an amino group of the lipophilic substituent.

In a further preferred embodiment, the present invention relates to a GLP-1 derivative having a lipophilic substituent which comprises a partially or completely hydrogenated cyclo-30 pentanophenathrene skeleton.

In a further preferred embodiment, the present invention relates to a GLP-1 derivative having a lipophilic substituent which is a straight-chain or branched alkyl group.

In a further preferred embodiment, the present invention relates to a GLP-1 derivative having a lipophilic substituent which is the acyl group of a straight-chain or branched fatty acid.

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In a further preferred embodiment, the present invention relates to a GLP-1 derivative having a lipophilic substituent which is an acyl group selected from the group comprising $CH_3(CH_2)_nCO$ -, wherein n is an integer from 4 to 38, preferably an integer from 4 to 24, more preferred selected from the group comprising $CH_3(CH_2)_6CO$ -, $CH_3(CH_2)_8CO$ -, $CH_3(CH_2)_{10}CO$ -, $CH_3(CH_2)_{12}CO$ -, $CH_3(CH_2)_{14}CO$ -, $CH_3(CH_2)_{18}CO$ -, $CH_3(CH_2)_{10}CO$ -, and $CH_3(CH_2)_{12}CO$ -.

In a further preferred embodiment, the present invention relates to a GLP-1 derivative having a lipophilic substituent which is an acyl group of a straight-chain or branched alkane α, ω -dicarboxylic acid.

In a further preferred embodiment, the present invention relates to a GLP-1 derivative having a lipophilic substituent which is an acyl group selected from the group comprising HOOC(CH₂)_mCO-, wherein m is an integer from 4 to 38, preferably an integer from 4 to 24, more preferred selected from the group comprising HOOC(CH₂)₁₄CO-, HOOC(CH₂)₁₆CO-, HOOC(CH₂)₂₀CO- and HOOC(CH₂)₂₂CO-.

In a further preferred embodiment, the present invention relates to a GLP-1 derivative having a lipophilic substituent which is a group of the formula $CH_3(CH_2)_p((CH_2)_qCOOH)CHNH-CO(CH_2)_2CO-$, wherein p and q are integers and p+q is an integer of from 8 to 33, preferably from 12 to 28.

In a further preferred embodiment, the present invention relates to a GLP-1 derivative 20 having a lipophilic substituent which is a group of the formula CH₃(CH₂),CO-NHCH(COOH)(CH₂),CO-, wherein r is an integer of from 10 to 24.

In a further preferred embodiment, the present invention relates to a GLP-1 derivative having a lipophilic substituent which is a group of the formula $CH_3(CH_2)_*CO-NHCH((CH_2)_*COOH)CO-$, wherein s is an integer of from 8 to 24.

In a further preferred embodiment, the present invention relates to a GLP-1 derivative having a lipophilic substituent which is a group of the formula $COOH(CH_2)_1CO$ - wherein t is an integer of from 8 to 24.

In a further preferred embodiment, the present invention relates to a GLP-1 derivative having a lipophilic substituent which is a group of the formula -NHCH(COOH)(CH₂)₄NH-CO(CH₂)₄CH₃, wherein u is an integer of from 8 to 18.

In a further preferred embodiment, the present invention relates to a GLP-1 derivative having a lipophilic substituent which is a group of the formula $CH_3(CH_2)_vCO-NH-(CH_2)_z-CO$, wherein n is an integer of from 8 to 24 and z is an integer of from 1 to 6.

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In a further preferred embodiment, the present invention relates to a GLP-1 derivative having a lipophilic substituent which is a group of the formula -NHCH(COOH)(CH₂)₄NH-COCH((CH₂)₂COOH)NH-CO(CH₂)₄CH₃, wherein w is an integer of from 10 to 16.

In a further preferred embodiment, the present invention relates to a GLP-1 derivative having a lipophilic substituent which is a group of the formula -NHCH(COOH)(CH₂)₄NH-CO(CH₂)₂CH(COOH)NH-CO(CH₂)₂CH₃, wherein x is an integer of from 10 to 16.

In a further preferred embodiment, the present invention relates to a GLP-1 derivative having a lipophilic substituent which is a group of the formula -NHCH(COOH)(CH₂)₄NH-CO(CH₂)₂CH(COOH)NHCO(CH₂)₄CH₃, wherein y is zero or an integer of from 1 to 22.

In a further preferred embodiment, the present invention relates to a GLP-1 derivative having a lipophilic substituent which can be negatively charged. Such a lipophilic substituent can for example be a substituent which has a carboxyl group.

In a further preferred embodiment the present invention relates to a GLP-1 derivative of formula I provided that

15 a) when no spacer is present the lipophilic substituent is not selected from:

tetradecanoyl,

ω-carboxynonadecanoyl,

lithocholyl,

ω-carboxytridecanoyl,

ω-carboxyheptadecanoyi,

ω-carboxyundecanoyl,

ω-carboxyheptanoyl,

ω-carboxypentadecanoyl,

7-deoxycholoyl,

25 choloyl,

hexadecanoyl, and

b) the GLP-1 derivative of formula I is not selected from: $Glu^{22,23,30}Arg^{26,34}Lys^{38}(N^{e}-(\gamma-glutamyl(N^{e}-tetradecanoyl)))-GLP-1(7-38)-OH,$ $Glu^{23,26}Arg^{34}Lys^{38}(N^{e}-(\gamma-glutamyl(N^{e}-tetradecanoyl)))-GLP-1(7-38)-OH,$

30 Lys^{26,34}-bis(N^ε-(γ-glutamyl(N^α-tetradecanoyl)))-GLP-1(7-37)-OH, Lys^{26,34}-bis(N^ε-(γ-glutamyl(N^α-hexadecanoyl)))-GLP-1(7-37)-OH, Arg³⁴Lys²⁶(N^ε-(γ-glutamyl(N^α-hexadecanoyl)))-GLP-1(7-37)-OH, Arg^{26,34}Lys³⁸(N^ε-(γ-glutamyl(N^α-tetradecanoyl)))-GLP-1(7-38)-OH, Arg^{26,34}Lys³⁸(N^ε-(γ-glutamyl(N^α-hexadecanoyl)))-GLP-1(7-38)-OH,

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Lys^{25,34}bis(N^{*}-(ω -carboxyheptanoyl))-GLP-1(7-37)-OH, Arg³⁴Lys²⁶ (N^{*}-(ω -carboxypentadecanoyl))-GLP-1(7-37)-OH, Arg^{26,34}Lys³⁶ (N^{*}-(ω -carboxyheptanoyl))-GLP-1(7-36)-OH, Arg³⁴Lys²⁶(N^{*}-lithocholyl)-GLP-1(7-37)-OH, Glu^{22,23,30}Arg^{26,34}Lys³⁸(N^{*}-(γ -glutamyl(N[°]-tetradecanoyl)))-GLP-1(7-38)-OH, Glu^{23,26}Arg³⁴Lys³⁸(N^{*}-(γ -glutamyl(N[°]-tetradecanoyl)))-GLP-1(7-38)-OH,

- Arg³⁴Lys²⁸ (N^ε-(ω–carboxyundecanoyl))-GLP-1(7-37)-OH,
 Arg³⁴Lys²⁶ (N^ε-(ω–carboxyheptanoyl))-GLP-1(7-37)-OH,
 Arg^{26,34}Lys³⁸ (N^ε-(ω–carboxyheptanoyl))-GLP-1(7-37)-OH,
 Arg^{26,34}Lys³⁶ (N^ε-(ω–carboxyheptanoyl))-GLP-1(7-36)-OH,
 Arg^{26,34}Lys³⁶ (N^ε-(ω–carboxyheptanoyl))-GLP-1(7-37)-OH,
- 20 Arg^{26,34}Lys³⁸(N^e-(ω -carboxyundecanoyl))-GLP-1(7-38)-OH, Lys^{26,34}bis(N^e-(ω -carboxyundecanoyl))-GLP-1(7-37)-OH, Arg^{26,34}Lys³⁶ (N^e-(ω -carboxyundecanoyl))-GLP-1(7-36)-OH, Arg³⁴Lys²⁶ (N^e-(ω -carboxyundecanoyl))-GLP-1(7-37)-OH,
- Arg³⁴Lys²⁶ (N^t-(ω-carboxyheptadecanoyl))-GLP-1(7-37)-OH, Arg^{26,34}Lys³⁶ (N^t-(ω-carboxyheptadecanoyl))-GLP-1(7-37)-OH, Arg^{26,34}Lys³⁶ (N^t-(ω-carboxyheptadecanoyl))-GLP-1(7-38)-OH, Arg^{26,34}Lys³⁶ (N^t-(ω-carboxyheptadecanoyl))-GLP-1(7-36)-OH, Arg^{26,34}Lys³⁶ (N^t-(ω-carboxyundecanoyl))-GLP-1(7-37)-OH,
- Arg^{26,34}Lys³⁶ (N^ε-tetradecanoyl)-GLP-1(7-37)-OH, Lys^{26,34}bis(N^ε-(ω-carboxynonadecanoyl))-GLP-1(7-37)-OH, Arg^{26,34}Lys³⁶(N^ε-(ω-carboxynonadecanoyl))-GLP-1(7-36)-OH, Arg^{26,34}Lys³⁸(N^ε-(ω-carboxynonadecanoyl))-GLP-1(7-38)-OH, Arg³⁴Lys²⁶ (N^ε-(ω-carboxynonadecanoyl))-GLP-1(7-37)-OH,
- Lys^{26,34}-bis(N^s-tetradecanoyl)-GLP-1(7-37), Lys²⁶(N^s-tetradecanoyl)Arg³⁴-GLP-1(7-37), Gly⁸Arg^{26,34}Lys³⁶(N^s-tetradecanoyl)-GLP-1(7-37),
- Lys²⁶(N^e-tetradecanoyl)-GLP-1(7-37), Lys³⁴(N^e-tetradecanoyl)-GLP-1(7-37),

of formula I provided that it is not selected from:

Arg^{26,34}Lys³⁸(N^s-(γ-glutamyl(N^α-octadecanoyl)))-GLP-1(7-38)-OH. In a further preferred embodiment the present invention relates to a GLP-1 derivative

Arg³⁴Lys²⁶(N^s-(γ-glutamyl(N^s-tetradecanoyl)))-GLP-1(7-37)-OH,

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Lys^{26,34}-bis(N^e-(w-carboxytridecanoyl))-GLP-1(7-37)-OH, Lys^{26,34}-bis(N*-(y-glutamyl(N°-tetradecanoyl)))-GLP-1(7-37)-OH, Arg^{26,34}Lys³⁸(N[#]-(ω-carboxypentadecanoyl))-GLP-1(7-38)-OH, Lys^{26,34}-bis(N*-(y-glutamyl(N°-hexadecanoyl)))-GLP-1(7-37)-OH, Arg³⁴Lys²⁶(N^e-(y-glutamyl(N^e-hexadecanoyl)))-GLP-1(7-37)-OH, Arg^{25,34}Lys³⁸(N^s-(y-glutamyl(N^a-tetradecanoyl)))-GLP-1(7-38)-OH, Arg^{26,34}Lys³⁸(N⁴-(ω-carboxypentadecanoyi))-GLP-1(7-38)-OH, Arg^{26,34}Lvs³⁸(N^e-(y-glutamyi(N^e-hexadecanoyi)))-GLP-1(7-38)-OH, Arg18,23,26,30,34 Lys38 (N*-hexadecanoyl)-GLP-1(7-38)-OH, Arg^{26,34}Lys³⁸(N^s-(ω-carboxytridecanoyl))-GLP-1(7-38)-OH, Arg³⁴Lvs²⁶(N^ε-(γ-glutamyl(N^α-tetradecanoyl)))-GLP-1(7-37)-OH, Arg^{26,34}Lys³⁸(N^ε-(γ-giutamyi(N^α-octadecanoyi)))-GLP-1(7-38)-OH, Lys²⁶(N^{*}-tetradecanoyl)-GLP-1(7-37); Lys³⁴(N^e-tetradecanoyl)-GLP-1(7-37); Lys^{26,34}-bis(N^{*}-tetradecanoyl)-GLP-1(7-37); Gly⁸Lys²⁶(N^{*}-tetradecanoyl)-GLP-1(7-37); Gly⁸Lys³⁴(N^s-tetradecanoyl)-GLP-1(7-37); Gly⁸Lys^{26,34}-bis(N^{*}-tetradecanoyl)-GLP-1(7-37); Arg²⁶Lys³⁴(N^{*}-tetradecanoyl)-GLP-1(7-37); Lys²⁶(N^s-tetradecanoyl)-GLP-1(7-38); Lys³⁴(N^e-tetradecanovi)-GLP-1(7-38); Lvs^{26,34}-bis(N^{*}-tetradecanovi)-GLP-1(7-38);

> Gly⁸Lys²⁶(N^e-tetradecanoyl)-GLP-1(7-38); Gly⁸Lys³⁴(N^e-tetradecanoyl)-GLP-1(7-38);

Arg²⁶Lys³⁴(N⁴-tetradecanoyi)-GLP-1(7-38);

Lys^{26,34}-bis(N^e-tetradecanoyl)-GLP-1(7-39); Gly⁸Lys²⁶(N^e-tetradecanoyl)-GLP-1(7-39);

Gly⁸Lys³⁴(N^{*}-tetradecanoyl)-GLP-1(7-39);

Arg²⁶Lys³⁴(N^s-tetradecanoyi)-GLP-1(7-39);

Gly⁸Lys^{26,34}-bis(N^e-tetradecanoyl)-GLP-1(7-39);

Lys²⁶(N^{*}-tetradecanoyl)-GLP-1(7-39); Lys³⁴(N^{*}-tetradecanoyl)-GLP-1(7-39);

Gly⁸Lys^{26,34}-bis(N^e-tetradecanoyl)-GLP-1(7-38);

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Lys²⁶(N⁴-tetradecanoyl)-GLP-1(7-40); Lys34(Nf-tetradecanoyi)-GLP-1(7-40);

Lys^{26,34}-bis(N^e-tetradecanoyl)-GLP-1(7-40); Gly⁸Lys²⁸(N^{*}-tetradecanoyl)-GLP-1(7-40); Gly⁸Lys³⁴(N^{*}-tetradecanoyl)-GLP-1(7-40);

Glv⁸Lvs^{26,34}-bis(N^s-tetradecanoyl)-GLP-1(7-40);

Arg²⁶Lys³⁴(N^{*}-tetradecanoyI)-GLP-1(7-40);

Lys^{26,34}-bis(N*-tetradecanoyl)-GLP-1(7-36);

Giv⁸Lys²⁶(N^e-tetradecanoyi)-GLP-1(7-36); Glv⁸Lys³⁴(N^e-tetradecanoyl)-GLP-1(7-36);

Arg²⁶Lys³⁴(N^{*}-tetradecanoyl)-GLP-1(7-36);

Lys²⁶(N^s-tetradecanoyl)-GLP-1(7-35);

Lys³⁴(N^s-tetradecanoyl)-GLP-1(7-35);

Glv⁸Lvs^{26,34}-bis(N^e-tetradecanoyl)-GLP-1(7-36);

Glv⁸Arg²⁶Lvs³⁴(N⁴-tetradecanoyl)-GLP-1(7-37);

Gly⁸Lys²⁶(N^s-tetradecanoyl)Arg³⁴-GLP-1(7-37); Arg^{26,34}Lys³⁶(N^c-tetradecanoyl)-GLP-1(7-37);

Gly⁸Arg^{26,34}Lys³⁶(N^s-tetradecanoyl)-GLP-1(7-37);

Lys²⁶(N^{*}-tetradecanoyl)Arg³⁴-GLP-1(7-37);

Lys²⁶(N^s-tetradecanoyl)-GLP-1(7-36); Lys³⁴(N^{*}-tetradecanoyi)-GLP-1(7-36); PCT/DK99/00082

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Lvs^{26,34}-bis(N^{*}-tetradecanoyl)-GLP-1(7-35); Gly⁸Lys²⁶(N^e-tetradecanoyl)-GLP-1(7-35); Glv⁸Lvs³⁴(N^{*}-tetradecanovi)-GLP-1(7-35); Gly⁸Lys^{26,34}-bis(N^{*}-tetradecanoyl)-GLP-1(7-35); Arg²⁶Lys³⁴(N^s-tetradecanoyl)-GLP-1(7-35); Lys²⁶(N⁴-tetradecanoyl)-GLP-1(7-36)amide; Lys34(Nt-tetradecanoyl)-GLP-1(7-36)amide; Lys^{26,34}-bis(N⁴-tetradecanoyl)-GLP-1(7-36)amide; Gly⁸Lys²⁶(N^{*}-tetradecanoyl)-GLP-1(7-36)amide; Gly⁸Lys³⁴(N^c-tetradecanoyl)-GLP-1(7-36)amide; Gly⁸Lys^{26,34}-bis(N^e-tetradecanoyl)-GLP-1(7-36)amide; Arg²⁶Lys³⁴(N^s-tetradecanoyi)-GLP-1(7-36)amide;

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Gly⁸Arg²⁶Lys³⁴(N⁴-tetradecanoyl)-GLP-1(7-38); Lys²⁶(N⁴-tetradecanoyl)Arg³⁴-GLP-1(7-38); Gly⁸Lys²⁶(N*-tetradecanoyl)Arg³⁴-GLP-1(7-38); Arg^{26,34}Lys³⁶(N^{*}-tetradecanoyl)-GLP-1(7-38); Arg^{26,34}Lys³⁸(N⁺-tetradecanovI)-GLP-1(7-38); Gly⁸Arg^{26,34}Lys³⁶(N⁴-tetradecanoyi)-GLP-1(7-38); Gly⁸Arg²⁶Lys³⁴(N^s-tetradecanoyl)-GLP-1(7-39); Lys²⁶(N*-tetradecanoyl)Arg³⁴-GLP-1(7-39); Gly⁸Lys²⁶(N⁴-tetradecanoyl)Arg³⁴-GLP-1(7-39); Arg^{26,34}Lvs³⁶(N^{*}-tetradecanovI)-GLP-1(7-39); Gly⁸Arg^{26,34}Lys³⁶(N^{*}-tetradecanoyl)-GLP-1(7-39); Gly⁸Arg²⁶Lys³⁴(N^{*}-tetradecanoyl)-GLP-1(7-40); Lys²⁶(N^s-tetradecanovi)Arg³⁴-GLP-1(7-40); Glv⁸Lvs²⁶(N^s-tetradecanovl)Arg³⁴-GLP-1(7-40); Arg^{26,34}Lys³⁶(N^{*}-tetradecanoyl)-GLP-1(7-40); Gly⁸Arg^{26,34}Lys³⁶(N*-tetradecanoyl)-GLP-1(7-40); Lys²⁶(N^{*}-(ω-carboxynonadecanoyl))-GLP-1(7-37); Lys34(N*-(ω-carboxynonadecanoyl))-GLP-1(7-37); Lys^{26,34}-bis(N^ε-(ω-carboxynonadecanoyl))-GLP-1(7-37); Gly⁸Lys²⁶(N^{*}-(ω-carboxynonadecanoyl))-GLP-1(7-37); Gly⁸Lys³⁴(N⁴-(ω-carboxynonadecanoyl))-GLP-1(7-37); Gly⁸Lys^{26,34}-bis(N^ε-(ω-carboxynonadecanoyl))-GLP-1(7-37); Lys²⁶(N^ε-(ω-carboxynonadecanoyl))-GLP-1(7-38); Lys³⁴(N^{*}-(ω-carboxynonadecanoyl))-GLP-1(7-38); Lys^{26,34}-bis(N^{*}-(ω-carboxynonadecanoyl))-GLP-1(7-38); Giy⁸Lys²⁶(N^{*}-(ω-carboxynonadecanoyl))-GLP-1(7-38); Gly⁸Lys³⁴(N^ε-(ω-carboxynonadecanoyl))-GLP-1(7-38); Giy⁸Lys^{26,34}-bis(N^ε-(ω-carboxynonadecanoyl))-GLP-1(7-38); Lys²⁶(N^{*}-(ω-carboxynonadecanoyl))-GLP-1(7-39); Lys³⁴(N^s-(ω-carboxynonadecanoyl))-GLP-1(7-39); Lys^{26,34}-bis(N^ε-(ω-carboxynonadecanoyl))-GLP-1(7-39); Gly⁸Lys²⁶(N^{*}-(ω-carboxynonadecanoyl))-GLP-1(7-39); Gly^aLys³⁴(N^t-(ω-carboxynonadecanoyi))-GLP-1(7-39);

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Gly⁸Lys^{26,24}-bis(N^s-(ω-carboxynonadecanoyl))-GLP-1(7-39); Lys²⁶(N^s-(w-carboxynonadecanoyl))-GLP-1(7-40); Lys34(N*-(w-carboxynonadecanoyl))-GLP-1(7-40); Lys^{26,34}-bis(N^t-(@-carboxynonadecanoyl))-GLP-1(7-40); Gly⁸Lys²⁶(N^s-(ω-carboxynonadecanoyl))-GLP-1(7-40); Gly⁸Lys³⁴(N^{*}-(w-carboxynonadecanoyl))-GLP-1(7-40); Gly⁸Lys^{26,34}-bis(N⁴-(ω -carboxynonadecanoyl))-GLP-1(7-40); Lys²⁶(N^t-(@-carboxynonadecanoyl))-GLP-1(7-36); Lys³⁴(N^s-(ω-carboxynonadecanoyl))-GLP-1(7-36); Lys^{26,34}-bis(N^e-(w-carboxynonadecanovl))-GLP-1(7-36); Gly⁸Lys²⁶(N⁴-(w-carboxynonadecanoyl))-GLP-1(7-36); Gly^aLys³⁴(N^ε-(ω-carboxynonadecanoyi))-GLP-1(7-36); Gly8Lys26,34-bis(N*-(@-carboxynonadecanoyl))-GLP-1(7-36); Lys²⁶(N^s-(ω-carboxynonadecanoyl))-GLP-1(7-36)amide; Lys34(N^e-(@-carboxynonadecanoyl))-GLP-1(7-36)amide; Lys^{26,34}-bis(N^s-(w-carboxynonadecanoyl))-GLP-1(7-36)amide; Glv⁸Lvs²⁶(N^t-(ω-carboxynonadecanoyl))-GLP-1(7-36)amide; Gly⁸Lys³⁴(N⁴-(ω-carboxynonadecanoyl))-GLP-1(7-36)amide; Gly⁸Lys^{26,34}-bis(N⁴-(ω-carboxynonadecanoyl))-GLP-1(7-36)amide; Lys²⁶(N^t-(ω-carboxynonadecanoyl))-GLP-1(7-35); Lys³⁴(N^ε-(ω-carboxynonadecanoyl))-GLP-1(7-35); Lys^{26,34}-bis(N^s-(w-carboxynonadecanoyl))-GLP-1(7-35); Gly⁸Lys²⁶(N^{*}-(@-carboxynonadecanoyl))-GLP-1(7-35); Giy⁸Lys³⁴(N^ε-(ω-carboxynonadecanoyl))-GLP-1(7-35); Gly⁸Lys^{26,34}-bis(N^{*}-(ω-carboxynonadecanoyl))-GLP-1(7-35); Arg²⁶Lys³⁴(N^e-(ω--carboxynonadecanoyl))-GLP-1(7-37); Gly⁸Arg²⁸Lys³⁴(N⁴-(ω-carboxynonadecanoyl))-GLP-1(7-37); Lys²⁶(N^s-(w-carboxynonadecanoyi))Arg³⁴-GLP-1(7-37); Gly⁸Lys²⁶(N⁴-(ω-carboxynonadecanoyl))Arg³⁴-GLP-1(7-37); Arg^{28,34}Lys³⁶(N⁴-(ω-carboxynonadecanoyl))-GLP-1(7-37); Gly⁸Arg^{26,34}Lys³⁶(N⁴-(ω-carboxynonadecanoyl))-GLP-1(7-37); Arg²⁶Lys³⁴(N^ε-(ω-carboxynonadecanoyl))-GLP-1(7-38); Gly⁸Arg²⁶Lys³⁴(N^ε-(ω-carboxynonadecanoyl))-GLP-1(7-38);

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Lys²⁶(N^ε-(ω-carboxynonadecanoyi))Arg³⁴-GLP-1(7-38); Gly⁸Lys²⁶(N^{*}-(ω-carboxynonadecanoyl))Arg³⁴-GLP-1(7-38); Arg^{26,34}Lys³⁶(N^{*}-(ω-carboxynonadecanoyl))-GLP-1(7-38); Arg^{26,34}Lys³⁸(N^{*}-(ω-carboxynonadecanoyl))-GLP-1(7-38); Gly⁸Arg^{26,34}Lys³⁶(N^ε-(ω-carboxynonadecanoyl))-GLP-1(7-38); Arg²⁶Lys³⁴(N*-(ω--carboxynonadecanoyl))-GLP-1(7-39); Gly⁸Arg²⁶Lys³⁴(N^e-(w-carboxynonadecanoyl))-GLP-1(7-39); Lys²⁶(N⁴-(ω-carboxynonadecanoyl))Arg³⁴-GLP-1(7-39); Gly⁸Lys²⁶(N^s-(ω-carboxynonadecanoyl))Arg³⁴-GLP-1(7-39); Arg^{26,34}Lys³⁶(N^{*}-(ω-carboxynonadecanoyl))-GLP-1(7-39); Gly⁸Arg^{26,34}Lys³⁶(N^{*}-(ω-carboxynonadecanoyl))-GLP-1(7-39); Arg²⁶Lys³⁴(N^{*}-(ω-carboxynonadecanoyl))-GLP-1(7-40); Gly⁸Arg²⁶Lys³⁴(N^ε-(ω-carboxynonadecanoyl))-GLP-1(7-40); Lys²⁶(N*-(ω-carboxynonadecanoyl))Arg³⁴-GLP-1(7-40); Gly⁸Lys²⁶(N^ε-(ω-carboxynonadecanoyl))Arg³⁴-GLP-1(7-40); Arg^{26,34}Lys³⁶(N^ε-(ω-carboxynonadecanoyl))-GLP-1(7-40); Gly⁸Arg^{26,34}Lys³⁶(N^{*}-(ω-carboxynonadecanoyl))-GLP-1(7-40); Lys²⁶(N^e-(7-deoxycholoyl))-GLP-1(7-37); Lys³⁴(N^e-(7-deoxycholoyl))-GLP-1(7-37); Lys^{26,34}-bis(N^e-(7-deoxycholoyi))-GLP-1(7-37); Gly⁸Lys²⁸(N^{*}-(7-deoxycholoyl))-GLP-1(7-37); Gly⁸Lys³⁴(N^{*}-(7-deoxycholoyl))-GLP-1(7-37); Gly⁸Lys^{26,34}-bis(N^e-(7-deoxycholoyl))-GLP-1(7-37); Arg²⁶Lys³⁴(N^e-(7-deoxycholoyl))-GLP-1(7-37); Lys²⁶(N^c-(7-deoxycholoyl))-GLP-1(7-38); Lys³⁴(N^{*}-(7-deoxycholoyi))-GLP-1(7-38); Lys^{26,34}-bis(N^e-(7-deoxycholoyl))-GLP-1(7-38); Gly⁸Lys²⁶(N^c-(7-deoxycholoyi))-GLP-1(7-38); Gly⁸Lys³⁴(N^e-(7-deoxycholoyl))-GLP-1(7-38); Gly⁸Lys^{26,34}-bis(N^{*}-(7-deoxycholoyl))-GLP-1(7-38); Arg²⁶Lys³⁴(N^e-(7-deoxycholoyl))-GLP-1(7-38); Lys²⁶(N^s-(7-deoxycholoyl))-GLP-1(7-39); Lys³⁴(N^c-(7-deoxycholoyl))-GLP-1(7-39);

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Lys^{26.34}-bis(N^s-(7-deoxycholoyl))-GLP-1(7-39); Gly⁸Lys²⁶(N^c-(7-deoxycholoyi))-GLP-1(7-39); Gly⁸Lys³⁴(N^e-(7-deoxycholoyi))-GLP-1(7-39); Gly⁸Lys^{26,34}-bis(N^c-(7-deoxycholoyl))-GLP-1(7-39); Arg²⁶Lys³⁴(N^e-(7-deoxycholoyl))-GLP-1(7-39); Lys²⁶(N^{*}-(7-deoxycholoyi))-GLP-1(7-40); Lys³⁴(N^{*}-(7-deoxycholoyl))-GLP-1(7-40); Lys^{26,34}-bis(N^e-(7-deoxycholoyi))-GLP-1(7-40); Gly⁸Lys²⁸(N^e-(7-deoxycholoyi))-GLP-1(7-40); Gly⁸Lys³⁴(N^c-(7-deoxycholoyi))-GLP-1(7-40); Gly⁸Lys^{26,34}-bis(N^{*}-(7-deoxycholoyl))-GLP-1(7-40); Arg²⁶Lys³⁴(N^c-(7-deoxycholoyl))-GLP-1(7-40); Lys²⁶(N^e-(7-deoxycholoyl))-GLP-1(7-36); Lys³⁴(N^{*}-(7-deoxycholoyl))-GLP-1(7-36); Lys^{26,34}-bis(N^e-(7-deoxycholoyl))-GLP-1(7-36); Gly⁸Lys²⁶(N^r-(7-deoxycholoyl))-GLP-1(7-36); Gly⁸Lys³⁴(N^r-(7-deoxycholoyi))-GLP-1(7-36); Gly⁸Lys^{26,34}-bis(N^e-(7-deoxycholoyl))-GLP-1(7-36); Arg²⁶Lys³⁴(N^c-(7-deoxycholoyi))-GLP-1(7-36); Lys²⁶(N^e-(7-deoxycholoyl))-GLP-1(7-35); Lys³⁴(N^t-(7-deoxycholoyl))-GLP-1(7-35); Lys^{26,34}-bis(N^e-(7-deoxycholoyl))-GLP-1(7-35); Gly⁸Lys²⁶(N^{*}-(7-deoxycholoyl))-GLP-1(7-35); Gly⁸Lys³⁴(N¹-(7-deoxycholoyl))-GLP-1(7-35); Gly⁸Lys^{26,34}-bis(N^s-(7-deoxycholoyl))-GLP-1(7-35); Arg²⁶Lys³⁴(N^s-(7-deoxycholoyl))-GLP-1(7-35); Lys²⁶(N*-(7-deoxycholoyi))-GLP-1(7-36)amide; Lys34(N=-(7-deoxycholoyl))-GLP-1(7-36)amide; Lys^{26,34}-bis(N^e-(7-deoxycholoyl))-GLP-1(7-36)amide; Gly⁸Lys²⁸(N¹-(7-deoxycholoyl))-GLP-1(7-36)amide; Gly⁸Lys³⁴(N^r-(7-deoxycholoyl))-GLP-1(7-36)amide; Gly^aLys^{26,34}-bis(N^s-(7-deoxycholoyl))-GLP-1(7-36)amide; Arg²⁶Lys³⁴(N^c-(7-deoxycholoyl))-GLP-1(7-36)amide;

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Gly⁸Arg²⁶Lys³⁴(N^e-(7-deoxycholoyl))-GLP-1(7-37);

Gly⁸Lys²⁶(N^s-(7-deoxycholoyl))Arg³⁴-GLP-1(7-37); Arg^{26,34}Lys³⁶(N^t-(7-deoxycholoyi))-GLP-1(7-37);

Gly⁸Arg^{26,34}Lys³⁶(N^{*}-(7-deoxycholoyl))-GLP-1(7-37);

Lys²⁶(N^{*}-(7-deoxycholoyi))Arg³⁴-GLP-1(7-37);

Lys²⁶(N*-(choloyi))-GLP-1(7-37); Lys34(N*-(choioyi))-GLP-1(7-37);

Lys^{26,34}-bis(N^s-(choloyl))-GLP-1(7-37);

Gly⁸Lys²⁶(N*-(choloyl))-GLP-1(7-37);

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Gly⁸Arg^{26,34}Lys³⁶(N^s-(7-deoxycholoyl))-GLP-1(7-40); Lys26(N*-(choloyi))-GLP-1(7-40); Lys³⁴(N^{*}-(choloyl))-GLP-1(7-40); Lys^{26,34}-bis(N^{*}-(choloy!))-GLP-1(7-40); Gly⁸Lys²⁶(N^s-(choloyl))-GLP-1(7-40); Gly⁸Lys³⁴(N^{*}-(choloyi))-GLP-1(7-40); Gly⁸Lys^{28,34}-bis(N^s-(choloy!))-GLP-1(7-40); Arg²⁶Lys³⁴(N⁴-(choloyl))-GLP-1(7-40); Lys26(N*-(choloyl))-GLP-1(7-36); Lys34(Nt-(choloyl))-GLP-1(7-36); Lys^{26,34}-bis(N^e-(choloyi))-GLP-1(7-36); Gly⁸Lys²⁶(N^{*}-(choloyl))-GLP-1(7-36); Gly⁸Lys³⁴(N⁴-(choloyl))-GLP-1(7-36); Gly⁸Lys^{26,34}-bis(N^e-(choloyl))-GLP-1(7-36); Arg²⁶Lys³⁴(N^{*}-(choloyl))-GLP-1(7-36); Lys²⁶(N^c-(choloyi))-GLP-1(7-35); Lys34(N*-(choloyi))-GLP-1(7-35); Lys^{26,34}-bis(N^s-(choloyl))-GLP-1(7-35); Gly⁸Lys²⁶(N⁴-(choloyl))-GLP-1(7-35); Gly⁸Lys³⁴(N^{*}-(choloyl))-GLP-1(7-35); Gly⁸Lys^{26,34}-bis(N^s-(choloy!))-GLP-1(7-35); Arg26Lys34(N*-(choloyl))-GLP-1(7-35); Lys26(Ne-(choloyl))-GLP-1(7-36)amide; Lys34(Nt-(choloyl))-GLP-1(7-36)amide; Lys26.34-bis(N*-(choloyi))-GLP-1(7-36)amide;

Gly⁸Lys²⁶(N^{*}-(choloyl))-GLP-1(7-39); Gly⁸Lys³⁴(N^{*}-(choloyl))-GLP-1(7-39);

Arg²⁶Lys³⁴(N*-(choloyl))-GLP-1(7-39);

Gly⁸Lys^{26,34}-bis(N^e-(choloyl))-GLP-1(7-39);

Gly⁸Arg²⁶Lys³⁴(N^s-(7-deoxycholoyi))-GLP-1(7-40);

Gly⁸Lys²⁶(N^e-(7-deoxycholoyl))Arg³⁴-GLP-1(7-40); Arg^{26,34}Lys³⁶(N^{*}-(7-deoxycholoyl))-GLP-1(7-40);

Lys²⁶(N^{*}-(7-deoxycholoyl))Arg³⁴-GLP-1(7-40);

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Gly8Lys26(Ne-(choloy!))-GLP-1(7-36)amide; Gly⁸Lys³⁴(N⁴-(choloyl))-GLP-1(7-36)amide; Gly⁸Lys^{28,34}-bis(N^{*}-(choloyl))-GLP-1(7-36)amide; Arg²⁶Lys³⁴(N^e-(choloy!))-GLP-1(7-36)amide; Gly8Arg26Lys34(Nf-(choloyl))-GLP-1(7-37); Arg26,Lys34 (Nf-(octanoyl)) GLP-1 (7-37)-OH; Lys²⁶(N*-(choloyl))Arg³⁴-GLP-1(7-37); Gly⁸Lys²⁶(N^{*}-(choloyi))Arg³⁴-GLP-1(7-37); Arg^{26,34}Lys³⁶(N⁴-(choloyl))-GLP-1(7-37); Gly8Arg28,34Lys36(Nt-(choloyi))-GLP-1(7-37); Lys²⁶(N^{*}-(lithocholoyl))-GLP-1(7-37); Lys³⁴(N⁴-(lithocholoyl))-GLP-1(7-37); Lys^{26,34}-bis(N^c-(lithocholoyl))-GLP-1(7-37); Gly⁸Lys²⁶(N^e-(lithocholoyl))-GLP-1(7-37); Gly⁸Lys³⁴(N^{*}-(lithocholoyl))-GLP-1(7-37); Gly⁸Lys^{26,34}-bis(N^s-(lithocholoyl))-GLP-1(7-37); Arg²⁶Lys³⁴(N^{*}-(lithocholoyl))-GLP-1(7-37); Gly8Arg26Lys34(Nt-(choloyi))-GLP-1(7-38); Lys²⁶(N^e-(choloyl))Arg³⁴-GLP-1(7-38); Gly⁸Lys²⁸(N^{*}-(choloyl))Arg³⁴-GLP-1(7-38); Arg^{26,34}Lys³⁶(N^{*}-(choloyl))-GLP-1(7-38); Arg^{26,34}Lys³⁸(N^c-(choloyi))-GLP-1(7-38); Gly⁸Arg^{26,34}Lys³⁶(N^{*}-(choloyl))-GLP-1(7-38); Lys26(Nt-(lithocholoyl))-GLP-1(7-38); Lys³⁴(N^{*}-(lithocholoyl))-GLP-1(7-38); Lys^{26,34}-bis(N^{*}-(lithocholoyl))-GLP-1(7-38); Gly⁸Lys²⁶(N⁴-(lithocholoyl))-GLP-1(7-38); Gly⁸Lys³⁴(N^c-(lithocholoyl))-GLP-1(7-38); Gly⁸Lys^{28,34}-bis(N^c-(lithocholoyl))-GLP-1(7-38); Arg²⁶Lys³⁴(N^{*}-(lithocholoyi))-GLP-1(7-38); Gly⁸Arg²⁶Lys³⁴(N^{*}-(choloyl))-GLP-1(7-39); Lys28(N*-(choloyi))Arg34-GLP-1(7-39); Gly⁸Lys²⁸(N^s-(choloyi))Arg³⁴-GLP-1(7-39);

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Gly⁸Arg^{26,34}Lys³⁶(N^{*}-(choloyl))-GLP-1(7-39); Lys²⁶(N⁴-(lithocholoy!))-GLP-1(7-39); Lys34(N*-(lithocholoyl))-GLP-1(7-39); Lys^{26,34}-bis(N^{*}-(lithocholoyl))-GLP-1(7-39); Gly⁸Lys²⁶(N^{*}-(lithocholoyl))-GLP-1(7-39); Gly⁸Lys³⁴(N^{*}-(lithocholoyl))-GLP-1(7-39); Gly⁸Lys^{26,34}-bis(N^{*}-(lithocholoyl))-GLP-1(7-39); Arg²⁶Lys³⁴(N^s-(lithocholoyl))-GLP-1(7-39); Gly8Arg26Lys34(Nf-(choloy!))-GLP-1(7-40); Lys²⁶(N^s-(choloyl))Arg³⁴-GLP-1(7-40); Gly⁸Lys²⁶(N^s-(choloyl))Arg³⁴-GLP-1(7-40); Arg^{26,34}Lys³⁶(N^s-(choloyl))-GLP-1(7-40); Gly⁸Arg^{26,34}Lys³⁶(N^t-(choloyl))-GLP-1(7-40); Lys²⁶(N^{*}-(lithocholoyl))-GLP-1(7-40); Lys³⁴(N^{*}-(lithocholoyi))-GLP-1(7-40); Lys^{26,34}-bis(N^{*}-(lithocholoyI))-GLP-1(7-40); Gly⁸Lys²⁶(N^e-(lithocholoyl))-GLP-1(7-40); Gly⁸Lys³⁴(N^e-(lithocholoyl))-GLP-1(7-40); Gly⁸Lys^{26,34}-bis(N⁴-(lithocholoyl))-GLP-1(7-40); Arg²⁶Lys³⁴(N^t-(lithocholoy!))-GLP-1(7-37); Lys²⁶(N^e-(lithocholoyl))-GLP-1(7-36); Lys³⁴(N^s-(lithocholoyl))-GLP-1(7-36); Lys^{26,34}-bis(N^e-(lithocholoyl))-GLP-1(7-36); Gly⁸Lys²⁶(N^e-(lithocholoyl))-GLP-1(7-36); Gly⁸Lys³⁴(N^r-(lithocholoyl))-GLP-1(7-36); Gly⁸Lys^{26,34}-bis(N^s-(lithocholoyl))-GLP-1(7-36); Arg²⁶Lys³⁴(N^e-(lithocholoyl))-GLP-1(7-36); Lys²⁶(N^e-(lithocholoyl))-GLP-1(7-35); Lys³⁴(N^{*}-(lithocholoyl))-GLP-1(7-35); Lys^{26,34}-bis(N^{*}-(lithocholoyl))-GLP-1(7-35); Gly⁸Lys²⁶(N^r-(lithocholoyl))-GLP-1(7-35); Gly8Lys34(N*-(lithocholoyi))-GLP-1(7-35);

Arg^{26,34}Lys³⁶(N^c-(choloyl))-GLP-1(7-39);

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Arg²⁶Lys³⁴(N⁴-(lithocholoyl))-GLP-1(7-35); Lys²⁶(N*-(lithocholoyI))-GLP-1(7-36)amide; Lys³⁴(N^e-(lithocholoyI))-GLP-1(7-36)amide; Lys^{26,34}-bis(N^{*}-(lithocholoyi))-GLP-1(7-36)amide; Gly⁸Lys²⁶(N^{*}-(lithocholoy!))-GLP-1(7-36)amide; Gly⁸Lys³⁴(N^{*}-(lithocholoyl))-GLP-1(7-36)amide; Gly⁸Lys^{26,34}-bis(N^{*}-(lithocholoyl))-GLP-1(7-36)amide; Arg²⁶Lys³⁴(N^s-(lithocholoyl))-GLP-1(7-36)amide; Gly8Arg26Lys34(Ne-(lithocholoyi))-GLP-1(7-37); Lys²⁶(N^e-(lithocholovi))Arg³⁴-GLP-1(7-37); Gly⁸Lys²⁶(N^e-(lithocholoyl))Arg³⁴-GLP-1(7-37); Arg^{26,34}Lys³⁶(N^e-(lithocholoyl))-GLP-1(7-37); Arg^{26,34}Lys³⁸(N^s-(lithocholoyl))-GLP-1(7-37); Gly⁸Arg^{26,34}Lys³⁶(N^e-(lithocholoyl))-GLP-1(7-37); Gly⁸Arg²⁶Lys³⁴(N^{*}-(lithocholoyl))-GLP-1(7-38); Lys²⁶(N^{*}-(lithocholoyl))Arg³⁴-GLP-1(7-38); Gly⁸Lys²⁸(N^s-(lithocholoyl))Arg³⁴-GLP-1(7-38); Arg^{26,34}Lys³⁶(N^{*}-(lithocholoyl))-GLP-1(7-38); Arg^{26,34}Lys³⁸(N^{*}-(lithocholoyl))-GLP-1(7-38); Gly⁸Arg^{28,34}Lys³⁸(N^{*}-(lithocholoyl))-GLP-1(7-38); Gly8Arg28Lys34(N*-(lithocholoyl))-GLP-1(7-39); Lys²⁶(N^e-(lithocholoyl))Arg³⁴-GLP-1(7-39); Gly⁸Lys²⁶(N^e-(lithocholoyI))Arg³⁴-GLP-1(7-39); Arg^{26,34}Lys³⁶(N^s-(lithocholoyl))-GLP-1(7-39); Gly⁸Arg^{26,34}Lys³⁶(N^{*}-(lithocholoyl))-GLP-1(7-39); Gly⁸Arg²⁶Lys³⁴(N^e-(lithocholoyl))-GLP-1(7-40); Lys²⁶(N^c-(lithocholoyl))Arg³⁴-GLP-1(7-40); Gly⁸Lys²⁶(N^c-(lithocholoyl))Arg³⁴-GLP-1(7-40); Arg^{26,34}Lys³⁶(N^s-(lithocholoyi))-GLP-1(7-40) and

Gly⁸Arg^{26,34}Lys³⁶(N^{*}-(lithocholoyI))-GLP-1(7-40).

Gly⁸Lys^{25,34}-bis(N^e-(lithocholoyl))-GLP-1(7-35);

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Other Derivatives

The derivatives of GLP-1 analogues of the present invention may be in the form one or more of (a) a C-1-6-ester, (b) an amide, C-1-6-alkylamide, or C-1-6-dialkylamide, and (c) a pharmaceutical salt. In a preferred embodiment, the derivatives of GLP-1 analogues are in the form of an acid addition salt or a carboxylate salt, most preferably in the form of an acid additi-

5 on salt.

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Preferred Derivatives of GLP-1 Analogues of the Present Invention

In a further preferred embodiment, a parent peptide for a derivative of the invention is Arg²⁶-GLP-1(7-37); Arg³⁴-GLP-1(7-37); Lys³⁶-GLP-1(7-37); Arg^{26,34}Lys³⁶-GLP-1(7-37); Arg^{26,34}Lys³⁶GLP-1(7-38); Arg^{26,34}Lys³⁹-GLP-1(7-39); Arg^{26,34}Lys⁴⁰-GLP-1(7-40); Arg²⁶Lys³⁶-GLP-1(7-37); Arg³⁴Lys³⁶-GLP-1(7-37); Arg^{26,34}Lys^{36,39}-GLP-1(7-37); Arg^{26,34}Lys^{36,39}-GLP-1(7-37); Gly⁸Arg^{26,34}Lys^{36,40}-GLP-1(7-40); Gly⁸Arg²⁶-GLP-1(7-37); Gly⁸Arg³⁴-GLP-1(7-37); Gly⁸Arg^{26,34}Lys³⁶-GLP-1(7-37); Gly⁸Arg³⁴-GLP-1(7-37); Gly⁸Arg^{26,34}Lys³⁶-GLP-1(7-37); Gly⁸Arg^{26,34}Lys³⁶-GLP-1(7-37); Gly⁸Arg³⁶-GLP-1(7-37); Gly⁸Arg³⁶-GLP-1(7-37); Gly⁸Arg^{26,34}Lys³⁶-GLP-1(7-37); Gly⁸Arg³⁶-GLP-1(7-37); Gly⁸Arg³⁶-GLP-1(7-37); Gly⁸Arg³⁶-GLP-1(7-37); Gly⁸Arg³⁶-GLP-1(7-37); Gly⁸Arg³⁶-GLP-1(7-39); or ch⁸Arg^{26,34}Lys³⁶-GLP-1(7-40)

15 Gly⁸Arg^{26,34}Lys^{36,40}-GLP-1(7-40).

In a further preferred embodiment, a parent peptide for a derivative of the invention is:

Arg^{26,34}Lys³⁸GLP-1(7-38); Arg^{26,34}Lys³⁹GLP-1(7-39); Arg^{26,34}Lys⁴⁰GLP-1(7-40);

- 20 Arg^{28,34}Lys⁴¹GLP-1(7-41); Arg^{26,34}Lys⁴²GLP-1(7-42); Arg^{28,34}Lys⁴³GLP-1(7-43); Arg^{28,34}Lys⁴⁴GLP-1(7-44); Arg^{28,34}Lys⁴⁵GLP-1(7-45);
- 25 Arg²⁶Lys³⁸GLP-1(7-38); Arg³⁴Lys³⁸GLP-1(7-38); Arg^{26,34}Lys^{38,38}GLP-1(7-38); Arg^{26,34}Lys³⁸GLP-1(7-38); Arg^{26,34}Lys³⁹GLP-1(1-39);
- 30 Arg³⁴Lys³⁹GLP-1(1-39); Arg^{26,34}Lys^{36,39}GLP-1(1-39); Arg²⁶Lys³⁹GLP-1(7-39); Arg³⁴Lys³⁹GLP-1(7-39);

Arg^{26,34}Lys^{36,39}GLP-1(7-39);

In a further preferred embodiment, the present invention relates to a GLP-1 derivative wherein the parent peptide is selected from the group comprising Arg^{26} -GLP-1(7-37), Arg^{34} -GLP-1(7-37), Lys^{36} -GLP-1(7-37), $Arg^{26,34}Lys^{36}$ -GLP-1(7-37), $Arg^{26}Lys^{36}$ -GLP-1(7-37), $Arg^{34}Lys^{36}$ -GLP-1(7-37), Gly^8Arg^{26} -GLP-1(7-37), $Gly^8Arg^{$

In a further preferred embodiment, the present invention relates to a GLP-1 derivative wherein the parent peptide is selected from the group comprising Arg²⁶Lys³⁸-GLP-1(7-38), Arg^{26,34}Lys³⁸-GLP-1(7-38), Gly⁸Arg²⁶Lys³⁸-GLP-1(7-38) and Gly⁸Arg^{26,34}Lys^{38,38}-GLP-1(7-38).

In a further preferred embodiment, the present invention relates to a GLP-1 derivative wherein the parent peptide is selected from the group comprising Arg²⁶Lys³⁹-GLP-1(7-39), Arg^{26,34}Lys^{36,39}-GLP-1(7-39), Gly⁸Arg²⁶Lys³⁹-GLP-1(7-39) and Gly⁸Arg^{26,34}Lys^{36,39}-GLP-1(7-39).

In a further preferred embodiment, the present invention relates to a GLP-1 derivative wherein the parent peptide is selected from the group comprising Arg³⁴Lys⁴⁰-GLP-1(7-40), Arg^{26,34}Lys^{36,40}-GLP-1(7-40), Gly⁸Arg³⁴Lys⁴⁰-GLP-1(7-40) and Gly⁸Arg^{26,34}Lys^{36,40}-GLP-1(7-40).

In a further preferred embodiment, the present invention relates to a GLP-1 derivative wherein the parent peptide is:

Arg²⁶-GLP-1(7-36); Arg³⁴-GLP-1(7-36); Arg^{26,34}Lys³⁶-GLP-1(7-36); Arg²⁶-GLP-1(7-36)amide;
 Arg³⁴-GLP-1(7-36)amide; Arg^{26,34}Lys³⁶-GLP-1(7-36)amide; Arg²⁸-GLP-1(7-37); Arg³⁴-GLP-1(7-37); Arg^{26,34}Lys³⁸-GLP-1(7-38); Arg³⁴-GLP-1(7-38); Arg^{26,34}Lys³⁸-GLP-1(7-39); Arg^{26,34}Lys³⁸-GLP-1(7-39); Arg^{26,34}Lys³⁹-GLP-1(7-39);

Gly⁸Arg²⁸-GLP-1(7-36); Gly⁸Arg³⁴-GLP-1(7-36); Gly⁸Arg^{26,34}Lys³⁸-GLP-1(7-36); Gly⁸Arg²⁶-GLP-25
1(7-36)amide; Gly⁸Arg³⁴-GLP-1(7-36)amide; Gly⁸Arg^{26,34}Lys³⁶-GLP-1(7-36)amide; Gly⁸Arg²⁶-GLP-1(7-37); Gly⁸Arg³⁴-GLP-1(7-37); Gly⁸Arg²⁶-GLP-1(7-37); Gly⁸Arg²⁶-GLP-1(7-38); Gly⁸Arg³⁴-GLP-1(7-38); Gly⁸Arg^{26,34}Lys³⁸-GLP-1(7-38); Gly⁸Arg²⁶-GLP-1(7-38); Gly⁸Arg^{26,34}Lys³⁹-GLP-1(7-39); Gly⁸-GLP-1(7-39); Gly

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Val⁸Arg²⁶-GLP-1(7-36); Val⁸Arg³⁴-GLP-1(7-36); Val⁸Arg^{26,34}Lys³⁶-GLP-1(7-36); Val⁸Arg²⁶-GLP-1(7-36)amide; Val⁸Arg³⁴-GLP-1(7-36)amide; Val⁸Arg^{26,34}Lys³⁶-GLP-1(7-36)amide; Val⁸Arg²⁶-GLP-1(7-37); Val⁸Arg³⁴-GLP-1(7-37); Val⁸Arg^{26,34}Lys³⁸-GLP-1(7-37); Val⁸Arg²⁶-GLP-1(7-38); Val⁸Arg³⁴-GLP-1(7-38); Val⁸Arg^{26,34}Lys³⁸GLP-1(7-38); Val⁸Arg²⁶-GLP-1(7-39); Val⁸Arg³⁴-GLP-1(7-39); Val⁸Arg^{26,34}Lys³⁹-GLP-1(7-39);

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Thr⁸Glu³⁵Arg^{28,34}Lys³⁸-GLP-1(7-36); Thr⁸Glu³⁵Arg^{28,34}Lys³⁸-GLP-1(7-36)amide; Thr⁸Glu³⁵Arg^{28,34}Lys³⁷GLP-1(7-37); Thr⁸Glu³⁷Arg^{26,34}Lys³⁸GLP-1(7-38); Thr⁸Glu³⁸Arg^{26,34}Lys³⁸-GLP-1(7-36); Thr⁸Glu³⁵Arg^{26,34}Lys³⁶-GLP-1(7-36)amide; GLP-1(7-39); Thr⁸Glu³⁵Arg^{26,34}Lys³⁶-GLP-1(7-36); Thr⁸Glu³⁵Arg^{26,34}Lys³⁶-GLP-1(7-36)amide; GLP-1(7-39); Thr⁸Glu³⁵Arg^{26,34}Lys³⁶-GLP-1(7-36); Thr⁸Glu³⁵Arg^{26,34}Lys³⁶-GLP-1(7-36)amide; Thr⁸Glu³⁵Arg^{26,34}Lys³⁶-GLP-1(7-36); Thr⁸Glu³⁵Arg^{26,34}Lys³⁶-GLP-1(7-36)amide; Thr⁸Glu³⁵Arg^{26,34}Lys³⁶-GLP-1(7-36); Thr⁸Glu³⁵Arg^{26,34}Lys³⁶-GLP-1(7-36)amide; Thr⁸Glu³⁵-Arg^{26,34}Lys³⁶-Arg^{26,34}Lys³⁶-Arg^{26,34}-Arg²

30 GLP-1(7-39);

 Ser⁸Asp³⁵Arg^{26,34}Lys³⁶-GLP-1(7-36);
 Ser⁸Asp³⁵Arg^{26,34}Lys³⁶-GLP-1(7-36)amide;

 Ser⁸Asp³⁶Arg^{26,34}Lys³⁷GLP-1(7-37);
 Ser⁸Asp³⁷Arg^{28,34}Lys³⁸GLP-1(7-38);
 Ser⁸Asp³⁸Arg^{26,34}Lys³⁸-GLP-1(7-36)amide;

 GLP-1(7-39);
 Ser⁸Asp³⁵Arg^{26,34}Lys³⁸-GLP-1(7-36);
 Ser⁸Asp³⁵Arg^{26,34}Lys³⁸-GLP-1(7-36)amide;

 Ser⁸Asp³⁶Arg^{26,34}Lys³⁷GLP-1(7-37);
 Ser⁸Asp³⁷Arg^{28,34}Lys³⁸-GLP-1(7-38);
 Ser⁸Asp³⁸Arg^{26,34}Lys³⁸-GLP-1(7-36)amide;

25 GLP-1(7-39);

 $Ser^{8}Glu^{35}Arg^{26,34}Lys^{36}-GLP-1(7-36); Ser^{8}Glu^{37}Arg^{26,34}Lys^{36}-GLP-1(7-36)amide; Ser^{8}Glu^{36}Arg^{26,34}Lys^{37}GLP-1(7-37); Ser^{8}Glu^{37}Arg^{26,34}Lys^{38}GLP-1(7-38); Ser^{8}Glu^{38}Arg^{26,34}Lys^{38}-GLP-1(7-36); Ser^{8}Glu^{35}Arg^{26,34}Lys^{36}-GLP-1(7-36)amide; Ser^{8}Glu^{35}Arg^{26,34}Lys^{37}GLP-1(7-37); Ser^{8}Glu^{37}Arg^{26,34}Lys^{38}GLP-1(7-38); Ser^{8}Glu^{38}Arg^{26,34}Lys^{39}-GLP-1(7-36)amide; Ser^{8}Glu^{36}Arg^{26,34}Lys^{37}-GLP-1(7-37); Ser^{8}Glu^{37}Arg^{26,34}Lys^{38}GLP-1(7-38); Ser^{8}Glu^{38}Arg^{26,34}Lys^{39}-GLP-1(7-36)amide; Ser^{8}Glu^{36}Arg^{26,34}Lys^{37}-GLP-1(7-37); Ser^{8}Glu^{37}Arg^{26,34}Lys^{38}-GLP-1(7-38); Ser^{8}Glu^{38}Arg^{26,34}Lys^{39}-GLP-1(7-38); Ser^{8}Glu^{38}-GLP-1(7-38); Ser^{8}Glu^{38}-GLP-1(7-38); Ser^{8}Glu^{38}-GLP-1(7-38); Ser^{8}Glu^{38}-GLP-1(7-38); Ser^{8}Glu^{38}-GLP-1(7-38); Ser^{8}Glu^{38}-GLP-1(7-38); Ser^{8}Glu^{38}-GLP-1(7-38); Ser^{8}Glu^{38}-GLP-1(7-38); Ser^{8}Glu^{38}-GLP-1$

20 GLP-1(7-39);

 Val⁸Asp³⁵Arg^{26,34}Lys³⁶-GLP-1(7-36);
 Val⁸Asp³⁵Arg^{26,34}Lys³⁶-GLP-1(7-36)amide;

 Val⁸Asp³⁵Arg^{26,34}Lys³⁷GLP-1(7-37);
 Val⁸Asp³⁷Arg^{26,34}Lys³⁸GLP-1(7-38);
 Val⁸Asp³⁶Arg^{26,34}Lys³⁸-GLP-1(7-36)amide;

 GLP-1(7-39);
 Val⁸Asp³⁵Arg^{26,34}Lys³⁶-GLP-1(7-36);
 Val⁸Asp³⁵Arg^{26,34}Lys³⁸-GLP-1(7-36)amide;

 Val⁸Asp³⁵Arg^{26,34}Lys³⁷GLP-1(7-37);
 Val⁸Asp³⁷Arg^{26,34}Lys³⁸-GLP-1(7-38);
 Val⁸Asp³⁸-GLP-1(7-36)amide;

15 GLP-1(7-39);

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 Val⁸Glu³⁵Arg^{26,34}Lys³⁶-GLP-1(7-36);
 Val⁸Glu³⁵Arg^{26,34}Lys³⁶-GLP-1(7-36)amide;

 Val⁸Glu³⁵Arg^{26,34}Lys³⁷GLP-1(7-37);
 Val⁸Glu³⁷Arg^{26,34}Lys³⁸GLP-1(7-38);
 Val⁸Glu³⁸Arg^{26,34}Lys³⁸-GLP-1(7-36)amide;

 GLP-1(7-39);
 Val⁸Glu³⁵Arg^{26,34}Lys³⁶-GLP-1(7-36);
 Val⁸Glu³⁵Arg^{26,34}Lys³⁸-GLP-1(7-36)amide;

 Val⁸Glu³⁵Arg^{26,34}Lys³⁷GLP-1(7-37);
 Val⁸Glu³⁷Arg^{26,34}Lys³⁸GLP-1(7-38);
 Val⁸Glu³⁸Arg^{26,34}Lys³⁸-GLP-1(7-36)amide;

10 1(7-39); Thr^aArg^{26,34}Lys³⁹-GLP-1(7-39);

1(7-39); Ser^aArg^{28,34}Lys³⁹-GLP-1(7-39); Thr^aArg²⁶-GLP-1(7-36); Thr^aArg³⁴-GLP-1(7-36); Thr^aArg^{26,34}Lys³⁶-GLP-1(7-36); Thr^aArg²⁶-GLP-1(7-36)amide; Thr^aArg³⁴-GLP-1(7-36)amide; Thr^aArg^{26,34}Lys³⁶-GLP-1(7-36)amide; Thr^aArg²⁶-GLP-1(7-37); Thr^aArg³⁴-GLP-1(7-37); Thr^aArg^{26,34}Lys³⁸-GLP-1(7-37); Thr^aArg²⁶-GLP-1(7-38); Thr^aArg³⁴-GLP-1(7-38) ; Thr^aArg^{26,34}Lys³⁸GLP-1(7-38); Thr^aArg²⁶-GLP-1(7-39); Thr^aArg³⁴-GLP-

 $Ser^{8}Arg^{26}-GLP-1(7-36); Ser^{8}Arg^{34}-GLP-1(7-36); Ser^{8}Arg^{26,34}Lys^{36}-GLP-1(7-36); Ser^{8}Arg^{26}-GLP-1(7-36)amide; Ser^{8}Arg^{26,34}Lys^{36}-GLP-1(7-36)amide; Ser^{8}Arg^{26}-GLP-1(7-37); Ser^{8}Arg^{34}-GLP-1(7-37); Ser^{8}Arg^{26,34}Lys^{36}-GLP-1(7-37); Ser^{8}Arg^{26}-GLP-1(7-38); Ser^{8}Arg^{26,34}Lys^{36}-GLP-1(7-39); Ser^{8}Arg^{34}-GLP-1(7-38); Ser^{8}Arg^{26,34}Lys^{36}-GLP-1(7-39); Ser^{8}Arg^{34}-GLP-1(7-38); Ser^{8}Arg^{26,34}Lys^{36}-GLP-1(7-39); Ser^{8}Arg^{34}-GLP-1(7-38); Ser^{8}Arg^{36}-GLP-1(7-39); Ser^{8}Arg^{34}-GLP-1(7-38); Ser^{8}Arg^{36}-GLP-1(7-38); Ser^{8}-GLP-1(7-38); Ser^{8$

Gly⁸Asp²⁸Arg^{28,34}Lys²⁷GLP-1(7-38); Arg^{28,34}Lys¹⁸-GLP-1(7-36); Arg^{26,34}Lys¹⁸-GLP-1(7-36)amide; Arg^{26,34}Lys¹⁸GLP-1(7-37); Arg^{28,34}Lys¹⁸GLP-1(7-38); Val⁸Asp¹⁹Arg^{26,34}Lys¹⁸-GLP-1(7-36); Val⁸Asp¹⁷Arg^{26,34}Lys¹⁸-GLP-1(7-

- Gly⁸Asp²⁴Arg^{26,34}Lys²³GLP-1(7-37); Gly⁸Asp²⁴Arg^{26,34}Lys²³GLP-1(7-38); Gly⁸Asp²²Arg^{26,34}Lys²⁷-GLP-1(7-36); Arg^{26,34}Lys²⁷-GLP-1(7-36)amide; Arg^{26,34}Lys²⁷-GLP-1(7-37); Arg^{26,34}Lys²⁷-GLP-1(7-38); Gly⁸Asp²⁸Arg^{26,34}Lys²⁷-GLP-1(7-36); Gly⁸Asp²⁶Arg^{26,34}Lys²⁷-GLP-1(7-36)amide; Gly⁸Asp²⁸Arg^{26,34}Lys²⁷-GLP-1(7-36)amide; Gly⁸Asp²⁸Arg^{26,34}Lys²⁷-GLP-1(7-36); Gly⁸Asp²⁸Arg^{26,34}Lys²⁷-GLP-1(7-36)amide; Gly⁸Asp²⁸Arg^{26,34}Lys²⁷-GLP-1(7-36)amide; Gly⁸Asp²⁸Arg^{26,34}Lys²⁷-GLP-1(7-36)amide; Gly⁸Asp²⁸Arg^{26,34}Lys²⁷-GLP-1(7-36)amide; Gly⁸Asp²⁸Arg^{26,34}Lys²⁷-GLP-1(7-36); Gly⁸Asp²⁸Arg^{26,34}Lys²⁷-GLP-1(7-36)amide; Gly⁸Asp²⁸Arg^{26,34}Lys²⁷-GLP-1(7-36)amide; Gly⁸Asp²⁸Arg^{26,34}Lys²⁷-GLP-1(7-36)amide; Gly⁸Asp²⁸Arg^{26,34}Lys²⁷-GLP-1(7-36)amide; Gly⁸Asp²⁸Arg^{26,34}Lys²⁷-GLP-1(7-38); Gly⁸Asp²⁸Arg^{26,34}Lys²⁷-GLP-1(7-36)amide; Gly⁸Asp²⁸Arg^{26,34}Lys²⁷-GLP-1(7-36)amide; Gly⁸Asp²⁸Arg^{26,34}Lys²⁷-GLP-1(7-38); Gly⁸Asp²⁸Arg^{26,34}Lys²⁷-GLP-1(7-38); Gly⁸Asp²⁸Arg^{26,34}Lys²⁷-GLP-1(7-38); Gly⁸Asp²⁸Arg^{26,34}Lys²⁷-GLP-1(7-38); Gly⁸Asp²⁸Arg^{26,34}Lys²⁷-GLP-1(7-38); Gly⁸Asp²⁸Arg^{26,34}Lys²⁷-GLP-1(7-38); Gly⁸Asp²⁸Arg^{26,34}Lys²⁷-GLP-1(7-38); Gly⁸Asp²⁸Arg^{26,34}Lys²⁷-GLP-1(7-38); Gly⁸Asp²⁸Arg^{26,34}Lys²⁷-GLP-1(7-38); Gly⁸Asp²⁸-1(20,34)</sup>
- Gly⁸Asp¹⁷Arg^{26,34}Lys¹⁸GLP-1(7-38); Arg^{26,34}Lys²³-GLP-1(7-36); Arg^{26,34}Lys²³-GLP-1(7-36)amide; Arg^{26,34}Lys²³GLP-1(7-37); Arg^{26,34}Lys²³GLP-1(7-38); Gly⁸Asp²⁴Arg^{26,34}Lys²³-GLP-1(7-36); Gly⁸Asp²²Arg^{26,34}Lys²³-GLP-1(7-25 36); Gly⁸Asp²⁴Arg^{26,34}Lys²³-GLP-1(7-36)amide; Gly⁸Asp²²Arg^{26,34}Lys²³-GLP-1(7-36)amide;
- GLP-1(7-39);
 Arg^{28,34}Lys¹⁸-GLP-1(7-36);
 Arg^{28,34}Lys¹⁸-GLP-1(7-36)amide;
 Arg^{28,34}Lys¹⁸GLP-1(7-37);

 Arg^{26,34}Lys¹⁸GLP-1(7-38);
 Gly⁸Asp¹⁹Arg^{26,34}Lys¹⁸-GLP-1(7-36);
 Gly⁸Asp¹⁷Arg^{28,34}Lys¹⁸-GLP-1(7-37);

 20
 36);
 Gly⁸Asp¹⁹Arg^{26,34}Lys¹⁸-GLP-1(7-36)amide;
 Gly⁸Asp¹⁷Arg^{26,34}Lys¹⁸-GLP-1(7-36)amide;
- GLP-1(7-39);
 Gly⁸Asp³⁵Arg^{26,34}Lys³⁶-GLP-1(7-36);
 Gly⁸Asp³⁵Arg^{26,34}Lys³⁷GLP-1(7-37);
 Gly⁸Asp³⁷Arg^{26,34}Lys³⁸GLP-1(7-38);
 Gly⁸Asp³⁵Arg^{26,34}Lys³⁵-GLP-1(7-36);
 GLP-1(7-39);
 Gly⁸Asp³⁵Arg^{26,34}Lys³⁶-GLP-1(7-36);
 Gly⁸Asp³⁵Arg^{26,34}Lys³⁷GLP-1(7-37);
 Gly⁸Asp³⁵Arg^{26,34}Lys³⁶-GLP-1(7-36);
 Gly⁸Asp³⁵Arg^{26,34}Lys³⁷GLP-1(7-37);
 Gly⁸Asp³⁵Arg^{26,34}Lys³⁸-GLP-1(7-38);
 Gly⁸Asp³⁵Arg^{26,34}Lys³⁹-GLP-1(7-37);
- GLP-1(7-39); Gly⁸Glu³⁵Arg^{26,34}Lys³⁶-GLP-1(7-36); Gly⁸Glu³⁵Arg^{26,34}Lys³⁶-GLP-1(7-36); Gly⁸Glu³⁶Arg^{26,34}Lys³⁷GLP-1(7-37); Gly⁸Glu³⁵Arg^{28,34}Lys³⁸-GLP-1(7-38); Gly⁸Glu³⁵Arg^{28,34}Lys³⁸-GLP-1(7-36); Gly⁸Glu³⁶Arg^{26,34}Lys³⁷GLP-1(7-37); Gly⁸Glu³⁶Arg^{26,34}Lys³⁷GLP-1(7-37); Gly⁸Glu³⁶Arg^{26,34}Lys³⁷GLP-1(7-37); Gly⁸Glu³⁶Arg^{26,34}Lys³⁷GLP-1(7-37); Gly⁸Glu³⁶Arg^{26,34}Lys³⁷GLP-1(7-37); Gly⁸Glu³⁶Arg^{26,34}Lys³⁷GLP-1(7-37); Gly⁸Glu³⁶Arg^{26,34}Lys³⁷GLP-1(7-37); Gly⁸Glu³⁶Arg^{26,34}Lys³⁷GLP-1(7-37); Gly⁸Glu³⁶Arg^{26,34}Lys³⁷GLP-1(7-37); Gly⁸Glu³⁶Arg^{26,34}Lys³⁸-GLP-1(7-38); Gly⁸Glu³⁶Arg^{26,34}Lys³⁷GLP-1(7-37); Gly⁸Glu³⁶Arg^{26,34}Lys³⁸-GLP-1(7-38); Gly⁸Glu³⁶Arg^{26,34}Lys³⁷-GLP-1(7-37); Gly⁸Glu³⁶Arg^{26,34}Lys³⁸-GLP-1(7-38); Gly⁸Glu³⁶Arg^{26,34}Lys³⁷-GLP-1(7-37); Gly⁸Glu³⁶Arg^{26,34}Lys³⁸-GLP-1(7-38); Gly⁸Glu³⁶Arg^{26,34}Lys³⁹-GLP-1(7-37); Gly⁸Glu³⁶Arg^{26,34}Lys³⁶-GLP-1(7-38); Gly⁸Glu³⁶-GLP-1(7-38); Gly⁸Glu³⁶-GLP-1(7-38); Gly⁸Glu³⁶-GLP-1(7-38); Gly⁸Glu³⁶-GLP-1(7-38); Gly⁸Glu³⁶-GLP-1(7-38); Gly⁸-GLP-1(7-38); Gly⁸-

GLP-1(7-39);
 Thr⁸Asp³⁵Arg^{26,34}Lys³⁶-GLP-1(7-36);
 Thr⁸Asp³⁵Arg^{26,34}Lys³⁷GLP-1(7-37);
 Thr⁸Asp³⁵Arg^{26,34}Lys³⁶-GLP-1(7-38);
 Thr⁸Asp³⁵Arg^{26,34}Lys³⁶-GLP-1(7-36);
 Thr⁸Asp³⁵Arg^{26,34}Lys³⁶-GLP-1(7-36);
 Thr⁸Asp³⁵Arg^{26,34}Lys³⁶-GLP-1(7-36);
 Thr⁸Asp³⁵Arg^{26,34}Lys³⁷GLP-1(7-37);
 Thr⁸Asp³⁵Arg^{26,34}Lys³⁶-GLP-1(7-36);
 Thr⁸Asp³⁵Arg^{26,34}Lys³⁷-GLP-1(7-37);
 Thr⁸Asp³⁵Arg^{26,34}Lys³⁶-GLP-1(7-38);
 Thr⁸Asp³⁵Arg^{26,34}Lys³⁷-GLP-1(7-37);

34 Thr^aGlu³⁶Arg^{26,34}Lys³⁷GLP-1(7-37); Thr^aGlu³⁷Arg^{26,34}Lys³⁸GLP-1(7-38); Thr^aGlu³⁸Arg^{26,34}Lys³⁹-

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Gly⁸Asp¹⁹Arg^{26,34}Lys¹⁸GLP-1(7-37);

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Gly⁸Asp¹⁹Arg^{26,34}Lys¹⁸GLP-1(7-38);

Sei^AAsp²⁶Arg^{26,34}Lys²⁷GLP-1(7-38); Arg^{26,34}Lys¹⁸-GLP-1(7-36); Arg^{26,34}Lys¹⁸-GLP-1(7-36)amide; Arg^{26,34}Lys¹⁸-GLP-1(7-37); 30 Arg^{26,34}Lys¹⁸GLP-1(7-38); Thr⁸Asp¹⁹Arg^{26,34}Lys¹⁸-GLP-1(7-36); Thr⁸Asp¹⁷Arg^{26,34}Lys¹⁸-GLP-1(7-36); Thr⁸Asp¹⁹Arg^{26,34}Lys¹⁸-GLP-1(7-36)amide; Thr⁸Asp¹⁹Arg^{26,34}Lys¹⁸-GLP-1(7-36)amide; Thr⁸Asp¹⁹Arg^{26,34}Lys¹⁸GLP-1(7-37); Thr⁸Asp¹⁹Arg^{26,34}Lys¹⁸-GLP-1(7-38); Thr⁸Asp¹⁹Arg^{26,34}Lys¹⁸GLP-1(7-37); Thr⁸Asp¹⁹Arg^{26,34}Lys¹⁸-GLP-1(7-38);

 Ser⁸Asp²⁴Arg^{26,34}Lys²³GLP-1(7-37);
 Ser⁸Asp²⁴Arg^{26,34}Lys²³GLP-1(7-38);

 Ser⁸Asp²²Arg^{26,34}Lys²³GLP-1(7-36);
 Arg^{26,34}Lys²⁷-GLP-1(7-36)amide;

 Arg^{28,34}Lys²⁷-GLP-1(7-36);
 Arg^{26,34}Lys²⁷-GLP-1(7-36)amide;

 Arg^{28,34}Lys²⁷GLP-1(7-38);
 Ser⁸Asp²⁸Arg^{26,34}Lys²⁷-GLP-1(7-37);

 25
 Arg^{28,34}Lys²⁷GLP-1(7-38);
 Ser⁸Asp²⁸Arg^{26,34}Lys²⁷-GLP-1(7-36);

 26
 Arg^{28,34}Lys²⁷-GLP-1(7-38);
 Ser⁸Asp²⁸Arg^{26,34}Lys²⁷-GLP-1(7-36);

 26
 Ser⁸Asp²⁸Arg^{26,34}Lys²⁷-GLP-1(7-36)amide;
 Ser⁸Asp²⁸Arg^{26,34}Lys²⁷-GLP-1(7-36)amide;

 27
 Ser⁸Asp²⁸Arg^{26,34}Lys²⁷-GLP-1(7-36)amide;
 Ser⁸Asp²⁸Arg^{26,34}Lys²⁷-GLP-1(7-36)amide;

 26
 Ser⁸Asp²⁸Arg^{26,34}Lys²⁷-GLP-1(7-36)amide;
 Ser⁸Asp²⁸Arg^{26,34}Lys²⁷-GLP-1(7-36)amide;

 27
 Ser⁸Asp²⁸Arg^{26,34}Lys²⁷-GLP-1(7-37);
 Ser⁸Asp²⁸Arg^{26,34}Lys²⁷-GLP-1(7-38);

 28
 Ser⁸Asp²⁸Arg^{26,34}Lys²⁷-GLP-1(7-38);
 Ser⁸Asp²⁸Arg^{26,34}Lys²⁷-GLP-1(7-38);

 Ser⁸Asp¹⁹Arg^{26,34}Lys¹⁸GLP-1(7-37);
 Ser⁸Asp¹⁹Arg^{26,34}Lys¹⁸GLP-1(7-38);

 Ser⁸Asp¹⁷Arg^{26,34}Lys²³-GLP-1(7-36);
 Arg^{26,34}Lys²³-GLP-1(7-36);

 Arg^{26,34}Lys²³-GLP-1(7-36);
 Arg^{26,34}Lys²³-GLP-1(7-36);

 20
 Arg^{26,34}Lys²³GLP-1(7-38);

 20
 Arg^{26,34}Lys²³-GLP-1(7-38);

 20
 Arg^{26,34}Lys²³-GLP-1(7-38);

 20
 Ser⁸Asp²⁴Arg^{26,34}Lys²³-GLP-1(7-36);

 20
 Arg^{26,34}Lys²³-GLP-1(7-38);

 20
 Ser⁸Asp²⁴Arg^{26,34}Lys²³-GLP-1(7-36);

 21
 Ser⁸Asp²⁴Arg^{26,34}Lys²³-GLP-1(7-36);

 22
 Ser⁸Asp²⁴Arg^{26,34}Lys²³-GLP-1(7-36);

Val⁸Asp²⁸Arg^{26,34}Lys²⁷GLP-1(7-37); Val⁸Asp²⁸Arg^{26,34}Lys²⁷GLP-1(7-38); Val⁸Asp²⁶Arg^{26,34}Lys¹⁸-GLP-1(7-36); Arg^{26,34}Lys¹⁸-GLP-1(7-36)amide; Arg^{26,34}Lys¹⁸GLP-1(7-37); Arg^{26,34}Lys¹⁸GLP-1(7-38); Ser⁸Asp¹⁹Arg^{26,34}Lys¹⁸-GLP-1(7-36); Ser⁸Asp¹⁷Arg^{26,34}Lys¹⁸-GLP-1(7-36)amide; Ser⁸Asp¹⁹Arg^{26,34}Lys¹⁸-GLP-1(7-37); Ser⁸Asp¹⁹Arg^{26,34}Lys¹⁸-GLP-1(7-36)amide; Ser⁸Asp¹⁹Arg^{26,34}Lys¹⁸-GLP-1(7-37); Ser⁸Asp¹⁹Arg^{26,34}Lys¹⁸-GLP-1(7-36)amide; Ser⁸Asp¹⁹Arg^{26,34}Lys¹⁸-GLP-1(7-37); Ser⁸Asp¹⁹Arg^{26,34}Lys¹⁸-GLP-1(7-37); Ser⁸Asp¹⁹Arg^{26,34}Lys¹⁸-GLP-1(7-37); Ser⁸Asp¹⁹Arg^{26,34}Lys¹⁸-GLP-1(7-37); Ser⁸Asp¹⁹Arg^{26,34}Lys¹⁸-GLP-1(7-38); Ser⁸Asp¹⁹-Arg^{26,34}Lys¹⁸-GLP-1(7-38); Ser⁸Asp¹⁹-Arg^{26,34}Lys¹⁸-GLP-1(7-38); Ser⁸Asp¹⁹-Arg^{26,34}Lys¹⁸-GLP-1(7-38); Ser⁸Asp¹⁹-Arg^{26,34}Lys¹⁸-GLP-1(7-38); Ser⁸Asp¹⁹-Arg^{26,34}Lys¹⁸-GLP-1(7-38); Ser⁸Asp¹⁹-Arg^{26,34}Lys¹⁸-GLP-1(7-38); Ser⁸Asp¹⁹-Arg^{26,34}Lys¹⁸-Ser⁸-

Val⁸Asp²⁴Arg^{26,34}Lys²³GLP-1(7-37); Val⁸Asp²⁴Arg^{26,34}Lys²³GLP-1(7-38); Val⁸Asp^{22,34}Lys²⁷-GLP-1(7-36); Arg^{26,34}Lys²⁷-GLP-1(7-36)amide; Arg^{26,34}Lys²⁷GLP-1(7-37); Arg^{26,34}Lys²⁷-GLP-1(7-38); Val⁸Asp²⁸Arg^{26,34}Lys²⁷-GLP-1(7-36); Val⁸Asp²⁶Arg^{26,34}Lys²⁷-GLP-1(7-36); Val⁸Asp²⁶Arg^{26,34}Lys²⁷-GLP-1(7-36)amide; Val⁸Asp^{26,34}-36Asp^{26,34}Lys²⁷-GLP-1(7-36)amide; Val⁸Asp^{26,34}-36Asp^{26,34}Lys²⁷-36LP-1(7-36)amide; Val⁸Asp

Val⁸Asp¹⁷Arg^{26,34}Lys¹⁸GLP-1(7-38); Arg^{26,34}Lys²³-GLP-1(7-36); Arg^{26,34}Lys²³-GLP-1(7-36)amide; Arg^{26,34}Lys²³GLP-1(7-37); 5 Arg^{26,34}Lys²³GLP-1(7-38); Val⁸Asp²⁴Arg^{26,34}Lys²³-GLP-1(7-36); Val⁸Asp²²Arg^{26,34}Lys²³-GLP-1(7-36); Val⁸Asp²⁴Arg^{26,34}Lys²³-GLP-1(7-36)amide; Val⁸Asp²²Arg^{26,34}Lys²³-GLP-1(7-36)amide; Val⁸Asp²⁴Arg^{26,34}Lys²³-GLP-1(7-37); Val⁸Asp²⁴Arg^{26,34}Lys²³-GLP-1(7-38);

36); Val⁸Asp¹⁹Arg^{26,34}Lys¹⁸-GLP-1(7-36)amide; Val⁸Asp¹⁷Arg^{26,34}Lys¹⁸-GLP-1(7-36)amide; Val⁸Asp¹⁹Arg^{26,34}Lys¹⁸GLP-1(7-38);

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Gly⁸GLP-1(7-36); Gly⁸GLP-1(7-37); Gly⁸GLP-1(7-38); Gly⁸GLP-1(7-39) Gly8Arg26Lys36-GLP-1(7-36); Gly8Arg26Lys36-GLP-1(7-37); Gly⁸Arg³⁴Lys³⁶-GLP-1(7-36); Gly⁸Arg³⁴Lys³⁶-GLP-1(7-37); Gly⁸Arg²⁶Lys³⁷-GLP-1(7-37); Gly⁸Arg³⁴Lys³⁷-GLP-1(7-37); Gly8Arg26Lys39-GLP-1(7-39); Gly8Arg34Lys39-GLP-1(7-39); Gly8Arg26.34Lys58.39-GLP-1(7-39);

Arg^{26,34}Lys^{18,37}GLP-1(7-37); Arg^{26,34}Lys^{18,36}-GLP-1(7-36); Arg^{26,34}Lys¹⁸GLP-1(7-37); Arg^{26,34}Lys^{23.36}-GLP-1(7-36); Arg^{26,34}Lys^{18,38}GLP-1(7-38); Arg^{26,34}Lys^{18,39}GLP-1(7-39); Arg^{26,34}Lys^{23,38}GLP-1(7-38): Arg^{26,34}Lys²³GLP-1(7-37); Arg^{28,34}Lys^{23,37}GLP-1(7-37); Arg26,34Lys23,39GLP-1(7-39); Arg^{26,34}Lys²⁷GLP-1(7-37); Arg^{26,34}Lys^{27,36}-GLP-1(7-36); Arg^{26,34}Lys^{27,37}GLP-1(7-37); Arg^{26,34}Lys^{27,38}GLP-1(7-38); Arg^{26,34}Lys^{27,39}GLP-1(7-39);

Arg²⁶Lys²⁷-GLP-1(7-36); Arg³⁴Lys²⁷-GLP-1(7-36); Arg²⁶Lys²⁷GLP-1(7-37); Arg³⁴Lys²⁷GLP-1(7-37); Arg²⁶Lys²⁷GLP-1(7-38); Arg³⁴Lys²⁷GLP-1(7-38); Arg²⁶Lys²⁷GLP-1(7-39); Arg³⁴Lys²⁷GLP-1(7-39); 25

1(7-39); Arg²⁶Lys²³-GLP-1(7-36); Arg³⁴Lys²³-GLP-1(7-36); Arg²⁶Lys²³GLP-1(7-37); Arg³⁴Lys²³GLP-1(7-37); Arg²⁶Lys²³GLP-1(7-38); Arg³⁴Lys²³GLP-1(7-38); Arg²⁶Lys²³GLP-1(7-39); Arg³⁴Lys²³GLP-20

1(7-39); Arg^{26,34}Lys^{36,39}-GLP-1(7-39); Arg²⁶Lys¹⁸-GLP-1(7-36); Arg³⁴Lys¹⁸-GLP-1(7-36); Arg²⁶Lys¹⁸GLP-1(7-37); Arg³⁴Lys¹⁸GLP-1(7-37); Arg²⁶Lys¹⁸GLP-1(7-38); Arg³⁴Lys¹⁸GLP-1(7-38); Arg²⁶Lys¹⁸GLP-1(7-39); Arg³⁴Lys¹⁸GLP-

wherein the parent peptide is: Arg²⁶Lys³⁶-GLP-1(7-36); Arg³⁴Lys³⁶-GLP-1(7-36); Arg²⁶Lys³⁶-GLP-1(7-37); Arg³⁴Lys³⁶-GLP-1(7-37); Arg²⁶Lys³⁷-GLP-1(7-37); Arg³⁴Lys³⁷-GLP-1(7-37); Arg²⁶Lys³⁹-GLP-1(7-39); Arg³⁴Lys³⁹-GLP-

In a further preferred embodiment, the present invention relates to a GLP-1 derivative

Thr⁸Asp²⁶Arg^{26,34}Lys²⁷GLP-1(7-38). 10

Thr⁸Asp²²Arg^{26,34}Lys²³GLP-1(7-38); Arg^{26,34}Lys²⁷-GLP-1(7-36)amide; Arg^{26,34}Lys²⁷GLP-1(7-37); Arg^{26,34}Lys²⁷-GLP-1(7-36); Arg^{28,34}Lys²⁷GLP-1(7-38); Thr⁸Asp²⁸Arg^{28,34}Lys²⁷-GLP-1(7-36); Thr⁸Asp²⁶Arg^{26,34}Lys²⁷-GLP-1<u>(</u>7-Thr⁸Asp²⁸Arg^{26,34}Lys²⁷-GLP-1(7-36)amide; Thr8Asp28Arg28.34Lys27-GLP-1(7-36)amide; 36); Thr⁸Asp²⁸Arg^{26,34}Lys²⁷GLP-1(7-38); Thr8Asp28Arg26,34Lys27GLP-1(7-37);

Arg^{26,34}Lys²³GLP-1(7-37); Arg^{26,34}Lys²³-GLP-1(7-36); Arg^{26,34}Lys²³-GLP-1(7-36)amide; Arg^{26,34}Lys²³GLP-1(7-38); Thr⁸Asp²⁴Arg^{26,34}Lys²³-GLP-1(7-36); Thr⁸Asp²²Arg^{26,34}Lys²³-GLP-1(7-Thr⁸Asp²²Arg^{28,34}Lys²³-GLP-1(7-36)amide; Thr⁸Asp²⁴Arg^{26,34}Lys²³-GLP-1(7-36)amide; 36); Thr⁸Asp²⁴Arg^{26,34}Lys²³GLP-1(7-37); Thr^aAsp²⁴Arg^{28,34}Lys²³GLP-1(7-38);

36

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30

1(7-39);

GLP-1(7-37).

Val⁸Arg^{28,34}Lys²³GLP-1(7-37); Val⁸Arg^{26,34}Lys^{23,37}GLP-1(7-37); Val⁸Arg^{26,34}Lys^{23,38}GLP-1(7-38); Val⁸Arg^{26,34}Lys^{23,39}GLP-1(7-39); Val⁸Arg^{26,34}Lys^{27,36}-GLP-1(7-36); Val⁸Arg^{26,34}Lys²⁷GLP-1(7-37); Val⁸Arg^{28,34}Lys^{27,37}GLP-1(7-37); Val⁸Arg^{28,34}Lys^{27,38}GLP-1(7-38); Val⁸Arg^{26,34}Lys^{27,39}GLP-1(7-39). In a further preferred embodiment, the GLP-1 derivative is Lys26(NE-tetradecanoyl)-

- Val⁸Arg³⁴Lys²⁷GLP-1(7-38); Val⁸Arg³⁴Lys²⁷GLP-1(7-37); Val⁸Arg²⁶Lys²⁷GLP-1(7-38); Val⁸Arg²⁶Lys²⁷GLP-1(7-39); Val⁸Arg³⁴Lys²⁷GLP-1(7-39); $Val^{8} Arg^{26,34} Lys^{18,36} - GLP - 1(7-36); Val^{8} Arg^{26,34} Lys^{18} GLP - 1(7-37); Val^{8} Arg^{26,34} Lys^{18,37} GLP - 1(7-37);$ Val⁸Arg^{26,34}Lys^{18,38}GLP-1(7-38); Val⁸Arg^{26,34}Lys^{18,39}GLP-1(7-39); Val⁸Arg^{26,34}Lys^{23,36}-GLP-1(7-36);
- Val⁸Arg²⁶Lys¹⁶GLP-1(7-39); Val⁸Arg³⁴Lys¹⁶GLP-1(7-39); Val8Arg26Lys23GLP-1(7-37); Val8Arg26Lys23-GLP-1(7-36); Val⁸Arg³⁴Lys²³-GLP-1(7-36); Val⁸Arg³⁴Lys²³GLP-1(7-38); Val⁸Arg²⁶Lys²³GLP-1(7-38); Val⁸Arg³⁴Lys²³GLP-1(7-37); Val⁸Arg²⁶Lys²³GLP-1(7-39); Val⁸Arg³⁴Lys²³GLP-1(7-39); Val8Arg26Lys27GLP-1(7-37); Val⁸Arg²⁶Lys²⁷-GLP-1(7-36); Val⁸Arg³⁴Lys²⁷-GLP-1(7-36); 25
- Vai⁸Arg³⁴Lys³⁷-GLP-1(7-37); Val⁸Arg²⁶Lys³⁷-GLP-1(7-37); Val⁸Arg³⁴Lys³⁶-GLP-1(7-37); Val⁸Arg²⁶Lys³⁹-GLP-1(7-39); Val⁸Arg³⁴Lys³⁹-GLP-1(7-39); Val⁸Arg^{26,34}Lys^{36,39}-GLP-1(7-39); Val8Arg26Lys18GLP-1(7-37); Val⁸Arg³⁴Lys¹⁸-GLP-1(7-36); Val⁸Arg²⁶Lys¹⁸-GLP-1(7-36); Val⁸Arg²⁶Lys¹⁸GLP-1(7-38); Val⁸Arg³⁴Lys¹⁸GLP-1(7-38); Val⁸Arg³⁴Lys¹⁸GLP-1(7-37); 20

Val⁸Arg³⁴Lys³⁶-GLP-1(7-36);

Gly⁸Arg^{26,34}Lys^{18,36}-GLP-1(7-36); Gly⁸Arg^{26,34}Lys¹⁸GLP-1(7-37); Gly⁸Arg^{26,34}Lys^{18,37}GLP-1(7-37); 10 Gly⁸Arg^{26,34}Lys^{18,38}GLP-1(7-38); Gly⁸Arg^{26,34}Lys^{18,39}GLP-1(7-39); Gly⁸Arg^{26,34}Lys^{25,38}-GLP-1(7-36); Gly⁸Arg^{26,34}Lys²³GLP-1(7-37); Gly⁸Arg^{26,34}Lys^{23,37}GLP-1(7-37); Gly⁸Arg^{26,34}Lys^{23,38}GLP-1(7-38); Gly⁸Arg^{28,34}Lys^{23,39}GLP-1(7-39); Gly⁸Arg^{26,34}Lys^{27,36}-GLP-1(7-36); Gly⁸Arg^{26,34}Lys²⁷GLP-1(7-37); Gly⁸Arg^{28,34}Lys^{27,37}GLP-1(7-37); Gly⁸Arg^{28,34}Lys^{27,38}GLP-1(7-38); Gly⁸Arg^{28,34}Lys^{27,39}GLP-1(7-39); Val⁸GLP-1(7-36); Val⁸GLP-1(7-37); Val⁸GLP-1(7-38); Val⁸GLP-1(7-39)

37 Gly8Arg34Lys18-GLP-1(7-36);

- 5 Gly8Arg28Lys23GLP-1(7-39); Gly8Arg34Lys23GLP-1(7-39); Gly8Arg26Lys27-GLP-1(7-36); Gly⁸Arg³⁴Lys²⁷-GLP-1(7-36); Giy⁸Arg³⁴Lys²⁷GLP-1(7-37); Gly⁸Arg²⁶Lys²⁷GLP-1(7-38); Gly⁸Arg²⁶Lys²⁷GLP-1(7-39); Gly⁸Arg³⁴Lys²⁷GLP-1(7-39);
- Gly⁸Arg²⁶Lys¹⁸GLP-1(7-38); Gly⁸Arg³⁴Lys¹⁸GLP-1(7-37); Gly#Arg²⁶Lys¹⁸GLP-1(7-39); Gly#Arg³⁴Lys¹⁸GLP-1(7-39); Gly⁸Arg³⁴Lys²³-GLP-1(7-36); Gly⁸Arg²⁶Lys²³-GLP-1(7-36); Gly⁸Arg²⁶Lys²³GLP-1(7-38); Gly⁸Arg³⁴Lys²³GLP-1(7-37);

Gly⁸Arg²⁶Lys²⁷GLP-1(7-37); Gly8Arg34Lys27GLP-1(7-38);

Val8Arg26Lys38-GLP-1(7-37);

Gly⁸Arg²⁶Lys²³GLP-1(7-37); Gly⁸Arg³⁴Lys²³GLP-1(7-38);

Gly⁸Arg²⁶Lys¹⁸GLP-1(7-37); Gly⁸Arg³⁴Lys¹⁸GLP-1(7-38);

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Gly8Arg26Lys18-GLP-1(7-36);

Val⁸Arg²⁶Lys³⁶-GLP-1(7-36);

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In a further preferred embodiment, the GLP-1 derivative is Lys³⁴(N^s-tetradecanoyl)-GLP-1(7-37).

In a further preferred embodiment, the GLP-1 derivative is Lys^{26,34}-bis(N^{*}-tetradecanoyl)-GLP-1(7-37).

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In a further preferred embodiment, the GLP-1 derivative is Gly⁸Lys²⁶(N^s-tetradecanovi)-GLP-1(7-37).

In a further preferred embodiment, the GLP-1 derivative is Gly⁸Lys³⁴(N^{*}-tetradecanoyl)-GLP-1(7-37).

In a further preferred embodiment, the GLP-1 derivative is Gly⁸Lys^{26,34}-bis(N^{*}-10 tetradecanoyl)-GLP-1(7-37).

In a further preferred embodiment, the GLP-1 derivative is Arg²⁶Lys³⁴(N^{*}-tetradecanoyl)-GLP-1(7-37).

In a further preferred embodiment, the GLP-1 derivative is Lys²⁶(N⁴-tetradecanoyl)-GLP-1(7-38).

In a further preferred embodiment, the GLP-1 derivative is Lys³⁴(N⁴-tetradecanoyl)-GLP-1(7-38).

In a further preferred embodiment, the GLP-1 derivative is Lys^{26,34}-bis(N^s-tetradecanoyl)-GLP-1(7-38).

In a further preferred embodiment, the GLP-1 derivative is Gly⁸Lys²⁸(N^s-20 tetradecanoyl)-GLP-1(7-38).

In a further preferred embodiment, the GLP-1 derivative is Gly⁸Lys³⁴(N^s-tetradecanoyl)-GLP-1(7-38).

In a further preferred embodiment, the GLP-1 derivative is Gly⁸Lys^{26,34}-bis(N^s-tetradecanoyi)-GLP-1(7-38).

In a further preferred embodiment, the GLP-1 derivative is Arg²⁶Lys³⁴(N^{*}-tetradecanoyl)-GLP-1(7-38).

In a further preferred embodiment, the GLP-1 derivative is Lys²⁶(N^s-tetradecanoyl)-GLP-1(7-39).

in a further preferred embodiment, the GLP-1 derivative is Lys³⁴(N*-tetradecanoyl)-30 GLP-1(7-39).

In a further preferred embodiment, the GLP-1 derivative is Lys^{26,34}-bis(N^t-tetradecanoyl)-GLP-1(7-39).

In a further preferred embodiment, the GLP-1 derivative is Gly⁸Lys²⁶(N^s-tetradecanoyl)-GLP-1(7-39).

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In a further preferred embodiment, the GLP-1 derivative is Gly⁸Lys³⁴(N^{*}-tetradecanoyl)-GLP-1(7-39).

In a further preferred embodiment, the GLP-1 derivative is Gly⁸Lys^{26,34}-bis(N^{*}-tetradecanoyl)-GLP-1(7-39).

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In a further preferred embodiment, the GLP-1 derivative is Arg²⁶Lys³⁴(N^ε-tetradecanoyi)-GLP-1(7-39).

In a further preferred embodiment, the GLP-1 derivative is Lys²⁶(N⁴-tetradecanoyl)-GLP-1(7-40).

In a further preferred embodiment, the GLP-1 derivative is Lys³⁴(N^{*}-tetradecanoyl)-10 GLP-1(7-40).

In a further preferred embodiment, the GLP-1 derivative is Lys^{26,34}-bis(N^s-tetradecanoyl)-GLP-1(7-40).

In a further preferred embodiment, the GLP-1 derivative is Gly⁸Lys²⁶(N^{*}- tetradecanovI)-GLP-1(7-40).

In a further preferred embodiment, the GLP-1 derivative is Gly^sLys³⁴(N^{*}-tetradecanoyl)-GLP-1(7-40).

In a further preferred embodiment, the GLP-1 derivative is Gly⁸Lys^{26,34}-bis(N^e-tetradecanoyl)-GLP-1(7-40).

In a further preferred embodiment, the GLP-1 derivative is Arg²⁵Lys³⁴(N⁴-20 tetradecanoyl)-GLP-1(7-40).

In a further preferred embodiment, the GLP-1 derivative is Lys²⁶(N^s-tetradecanoyl)-GLP-1(7-36).

In a further preferred embodiment, the GLP-1⁻ derivative is Lys³⁴(N^e-tetradecanoyl)-GLP-1(7-36).

In a further preferred embodiment, the GLP-1 derivative is Lys^{26,34}-bis(N^s-tetradecanoyl)-GLP-1(7-36).

In a further preferred embodiment, the GLP-1 derivative is Gly⁸Lys²⁶(N^{*}-tetradecanoyl)-GLP-1(7-36).

In a further preferred embodiment, the GLP-1 derivative is Gly⁸Lys³⁴(N^{*}-30 tetradecanoyl)-GLP-1(7-36).

In a further preferred embodiment, the GLP-1 derivative is Gly⁸Lys^{28,34}-bis(N^{*}-tetradecanoyl)-GLP-1(7-36).

In a further preferred embodiment, the GLP-1 derivative is Arg²⁶Lys³⁴(N^t-tetradecanoyl)-GLP-1(7-36).

In a further preferred embodiment, the GLP-1 derivative is Lys²⁶(N*-tetradecanoyl)-GLP-1(7-36)amide.

In a further preferred embodiment, the GLP-1 derivative is Lys³⁴(N^s-tetradecanoyl)-GLP-1(7-36)amide.

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In a further preferred embodiment, the GLP-1 derivative is Lys^{26,34}-bis(N^{*}-tetradecanoyl)-GLP-1(7-36)amide.

In a further preferred embodiment, the GLP-1 derivative is Gly⁸Lys²⁶(N^s-tetradecanoyl)-GLP-1(7-36)amide.

In a further preferred embodiment, the GLP-1 derivative is Gly⁸Lys³⁴(N^{*}-10 tetradecanoyl)-GLP-1(7-36)amide.

In a further preferred embodiment, the GLP-1 derivative is Gly⁸Lys^{26,34}-bis(N^{*}-tetradecanoyl)-GLP-1(7-36)amide.

In a further preferred embodiment, the GLP-1 derivative is Arg²⁶Lys³⁴(N⁴-tetradecanoyl)-GLP-1(7-36)amide.

In a further preferred embodiment, the GLP-1 derivative is Gly⁸Arg²⁶Lys³⁴(N⁴-tetradecanoyl)-GLP-1(7-37).

In a further preferred embodiment, the GLP-1 derivative is Lys²⁶(N^{*}-tetradecanoyl)Arg³⁴-GLP-1(7-37).

In a further preferred embodiment, the GLP-1 derivative is Gly⁸Lys²⁶(N^ε-20 tetradecanoyi)Arg³⁴-GLP-1(7-37).

In a further preferred embodiment, the GLP-1 derivative is Arg^{26,34}Lys³⁶(N^ε-tetradecanoyi)-GLP-1(7-37).

In a further preferred embodiment, the GLP-1 derivative is Gly⁸Arg^{26,34}Lys³⁶(N^{*}-tetradecanoyl)-GLP-1(7-37).

In a further preferred embodiment, the GLP-1 derivative is Gly8Arg26Lys34(N*tetradecanoyl)-GLP-1(7-38).

In a further preferred embodiment, the GLP-1 derivative is Lys²⁶(N^e-tetradecanoyl)Arg³⁴-GLP-1(7-38).

In a further preferred embodiment, the GLP-1 derivative is Gly⁸Lys²⁶(N^{*}-30 tetradecanoyl)Arg³⁴-GLP-1(7-38).

In a further preferred embodiment, the GLP-1 derivative is Arg^{26,34}Lys³⁶(N^r-tetradecanoyl)-GLP-1(7-38).

In a further preferred embodiment, the GLP-1 derivative is Arg^{26,24}Lys³⁸(N⁴-tetradecanoyi)-GLP-1(7-38).

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In a further preferred embodiment, the GLP-1 derivative is Gly⁸Arg^{26,34}Lys³⁶(N¹-tetradecanoyl)-GLP-1(7-38).

In a further preferred embodiment, the GLP-1 derivative is Gly⁸Arg²⁶Lys³⁴(N^{*}-tetradecanoyl)-GLP-1(7-39).

In a further preferred embodiment, the GLP-1 derivative is Lys28(N*-

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tetradecanovi)Arg³⁴-GLP-1(7-39);

In a further preferred embodiment, the GLP-1 derivative is Gly⁸Lys²⁶(N^{*}-tetradecanoyl)Arg³⁴-GLP-1(7-39).

In a further preferred embodiment, the GLP-1 derivative is Arg^{26,34}Lys³⁶(N^{*}-10 tetradecanoyl)-GLP-1(7-39).

In a further preferred embodiment, the GLP-1 derivative is Gly⁸Arg^{28,34}Lys³⁶(N⁴-tetradecanoyl)-GLP-1(7-39).

In a further preferred embodiment, the GLP-1 derivative is Gly⁸Arg²⁶Lys³⁴(N^ε-tetradecanoyl)-GLP-1(7-40).

In a further preferred embodiment, the GLP-1 derivative is Lys²⁶(N^{*}-tetradecanoyl)Arg³⁴-GLP-1(7-40).

In a further preferred embodiment, the GLP-1 derivative is Gly⁸Lys²⁸(N^t-tetradecanoyl)Arg³⁴-GLP-1(7-40).

In a further preferred embodiment, the GLP-1 derivative is Arg^{26.34}Lys³⁶(N^e-20 tetradecanoyl)-GLP-1(7-40).

In a further preferred embodiment, the GLP-1 derivative is Gly⁸Arg^{26,34}Lys³⁶(N^c-tetradecanoyl)-GLP-1(7-40).

In a further preferred embodiment, the GLP-1 derivative is $Lys^{26}(N^*-(\omega - carboxynonadecanoyl))-GLP-1(7-37).$

In a further preferred embodiment, the GLP-1 derivative is Lys³⁴(N^ε-(ωcarboxynonadecanoyl))-GLP-1(7-37).

In a further preferred embodiment, the GLP-1 derivative is Lys^{28,34}-bis(N^s-(ωcarboxynonadecanoyl))-GLP-1(7-37).

In a further preferred embodiment, the GLP-1 derivative is Gly⁸Lys²⁶(N^ε-(ω-30 carboxynonadecanoyl))-GLP-1(7-37).

In a further preferred embodiment, the GLP-1 derivative is Gly⁸Lys³⁴(N^ε-(ωcarboxynonadecanoyl))-GLP-1(7-37).

In a further preferred embodiment, the GLP-1 derivative is $Gly^{a}Lys^{26,34}$ -bis(N^e-(ω -carboxynonadecanoyI))-GLP-1(7-37).

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In a further preferred embodiment, the GLP-1 derivative is Lys26 (N*-(wcarboxynonadecanoyl))-GLP-1(7-38).

In a further preferred embodiment, the GLP-1 derivative is Lys34(N*-(acarboxynonadecanovi))-GLP-1(7-38).

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In a further preferred embodiment, the GLP-1 derivative is Lys26,34-bis(N*-(wcarboxynonadecanoyl))-GLP-1(7-38).

In a further preferred embodiment, the GLP-1 derivative is Gly8Lys28(N*-(wcarboxynonadecanoyl))-GLP-1(7-38).

In a further preferred embodiment, the GLP-1 derivative is Gly8Lys34(Ne-(wcarboxynonadecanovi))-GLP-1(7-38). 10

in a further preferred embodiment, the GLP-1 derivative is Gly⁸Lys^{26,34}-bis(N⁴-(wcarboxynonadecanoyl))-GLP-1(7-38).

In a further preferred embodiment, the GLP-1 derivative is Lys²⁶(N*-(wcarboxynonadecanoyl))-GLP-1(7-39).

In a further preferred embodiment, the GLP-1 derivative is Lys³⁴(N^{*}-(ωcarboxynonadecanoyl))-GLP-1(7-39).

In a further preferred embodiment, the GLP-1 derivative is Lys^{26,34}-bis(N^{*}-(ωcarboxynonadecanoyl))-GLP-1(7-39).

In a further preferred embodiment, the GLP-1 derivative is Gly8Lys26(N*-(wcarboxynonadecanoyl))-GLP-1(7-39). 20

In a further preferred embodiment, the GLP-1 derivative is Gly⁸Lys³⁴(N^{*}-(ωcarboxynonadecanoyl))-GLP-1(7-39).

In a further preferred embodiment, the GLP-1 derivative is Gly⁸Lys^{26,34}-bis(N^e-(ωcarboxynonadecanoyl))-GLP-1(7-39).

In a further preferred embodiment, the GLP-1 derivative is Lys²⁶(N^{*}-(wcarboxynonadecanoyl))-GLP-1(7-40).

in a further preferred embodiment, the GLP-1 derivative is Lys34(N^z-(wcarboxynonadecanoyl))-GLP-1(7-40).

In a further preferred embodiment, the GLP-1 derivative is Lys^{26,34}-bis(N^s-(ω-30 carboxynonadecanovi))-GLP-1(7-40).

In a further preferred embodiment, the GLP-1 derivative is Gly8Lys26(N*-(@carboxynonadecanoyl))-GLP-1(7-40).

In a further preferred embodiment, the GLP-1 derivative is Gly8Lys34(Ne-(acarboxynonadecanoyi))-GLP-1(7-40).

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In a further preferred embodiment, the GLP-1 derivative is Gly⁸Lys^{26,34}-bis(N^{*}-(ωcarboxynonadecanoyl))-GLP-1(7-40).

In a further preferred embodiment, the GLP-1 derivative is $Lys^{26}(N^*-(\omega-carboxynonadecanoyi))-GLP-1(7-36).$

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In a further preferred embodiment, the GLP-1 derivative is Lys³⁴(N^{*}-(ω -carboxynonadecanoyl))-GLP-1(7-36).

In a further preferred embodiment, the GLP-1 derivative is Lys^{26,34}-bis(N*-(ωcarboxynonadecanoyl))-GLP-1(7-36).

In a further preferred embodiment, the GLP-1 derivative is Gly⁸Lys²⁶(N^{*}-(∞ -10 carboxynonadecanoyI))-GLP-1(7-36).

In a further preferred embodiment, the GLP-1 derivative is $Gly^8Lys^{34}(N^*-(\omega-carboxynonadecanoyl))-GLP-1(7-36).$

In a further preferred embodiment, the GLP-1 derivative is Gly⁸Lys^{26,34}-bis(N^ε-(ωcarboxynonadecanoyl))-GLP-1(7-36).

In a further preferred embodiment, the GLP-1 derivative is $Lys^{26}(N^{t}-(\omega - carboxynonadecanoyl))$ -GLP-1(7-36)amide.

In a further preferred embodiment, the GLP-1 derivative is $Lys^{34}(N^{2}-(\omega - carboxynonadecanoyl))-GLP-1(7-36)amide.$

In a further preferred embodiment, the GLP-1 derivative is Lys^{26,34}-bis(N^{*}-(ω-20 carboxynonadecanoyl))-GLP-1(7-36)amide.

In a further preferred embodiment, the GLP-1 derivative is $Gly^8Lys^{26}(N^{-}(\omega - carboxynonadecanoyi))-GLP-1(7-36)amide.$

In a further preferred embodiment, the GLP-1 derivative is $Gly^8Lys^{34}(N^{*}-(\omega - carboxynonadecanoyl))-GLP-1(7-36)amide.$

In a further preferred embodiment, the GLP-1 derivative is Gly⁸Lys^{26,24}-bis(Ν^ε-(ωcarboxynonadecanoyl))-GLP-1(7-36)amide.

In a further preferred embodiment, the GLP-1 derivative is $\text{Arg}^{26}\text{Lys}^{34}(\text{N}^{4}-(\omega- \text{carboxynonadecanoyl}))-GLP-1(7-37).$

In a further preferred embodiment, the GLP-1 derivative is $Gly^8Arg^{26}Lys^{34}(N^{4}-(\omega-30))$ carboxynonadecanoyl))-GLP-1(7-37).

In a further preferred embodiment, the GLP-1 derivative is $Lys^{26}(N^{*}-(\omega - carboxynonadecanoyl))Arg^{34}-GLP-1(7-37).$

In a further preferred embodiment, the GLP-1 derivative is $Gly^{8}Lys^{26}(N^{*}-(\omega-carboxynonadecanoyl))Arg^{34}-GLP-1(7-37).$

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In a further preferred embodiment, the GLP-1 derivative is $Arg^{28,34}Lys^{36}(N^{-}-(\omega - carboxynonadecanoyl))-GLP-1(7-37).$

In a further preferred embodiment, the GLP-1 derivative is $Gly^8Arg^{26,34}Lys^{36}(N^4-(\omega-carboxynonadecanoyl))-GLP-1(7-37).$

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In a further preferred embodiment, the GLP-1 derivative is $\text{Arg}^{26}\text{Lys}^{34}(N^{4}-(\omega-$ carboxynonadecanoyl))-GLP-1(7-38).

In a further preferred embodiment, the GLP-1 derivative is $Gly^8Arg^{26}Lys^{34}(N^{\epsilon}-(\omega - carboxynonadecanoyi))-GLP-1(7-38).$

In a further preferred embodiment, the GLP-1 derivative is $Lys^{26}(N^{s}-(\omega-10^{-1}))$ carboxynonadecanoyl))Arg³⁴-GLP-1(7-38).

In a further preferred embodiment, the GLP-1 derivative is Gly⁸Lys²⁶(N^{*}-(ω -carboxynonadecanoyl))Arg³⁴-GLP-1(7-38).

In a further preferred embodiment, the GLP-1 derivative is $\text{Arg}^{26,34}\text{Lys}^{36}(N^{4}-(\omega - \text{carboxynonadecanoyl}))$ -GLP-1(7-38).

In a further preferred embodiment, the GLP-1 derivative is $\text{Arg}^{26,24}\text{Lys}^{36}(N^{\epsilon}-(\omega-carboxynonadecanoyI))-GLP-1(7-38).$

In a further preferred embodiment, the GLP-1 derivative is Gly⁸Arg^{26,34}Lys³⁶(N^e-(ω -carboxynonadecanoyl))-GLP-1(7-38).

In a further preferred embodiment, the GLP-1 derivative is $\text{Arg}^{26}\text{Lys}^{34}(N^{4}-(\omega-20))$ carboxynonadecanoyl))-GLP-1(7-39).

In a further preferred embodiment, the GLP-1 derivative is $Gly^8Arg^{26}Lys^{34}(N^{4}-\omega-carboxynonadecanoyl))-GLP-1(7-39).$

In a further preferred embodiment, the GLP-1 derivative is $Lys^{26}(N^{4}-(\omega - carboxynonadecanoyl))Arg^{34}-GLP-1(7-39).$

In a further preferred embodiment, the GLP-1 derivative is $Gly^{8}Lys^{26}(N^{4}-(\omega - carboxynonadecanoyl))Arg^{34}-GLP-1(7-39).$

In a further preferred embodiment, the GLP-1 derivative is $\text{Arg}^{26,34}\text{Lys}^{36}(N^{4}-(\omega-$ carboxynonadecanoy!))-GLP-1(7-39).

In a further preferred embodiment, the GLP-1 derivative is $Gly^8Arg^{26,24}Lys^{36}(N^{t}-(\omega-30))$ carboxynonadecanoyl))-GLP-1(7-39).

In a further preferred embodiment, the GLP-1 derivative is $\text{Arg}^{26}\text{Lys}^{34}(\text{N}^{6}-(\omega-$ carboxynonadecanoyl))-GLP-1(7-40).

In a further preferred embodiment, the GLP-1 derivative is $Gly^8Arg^{26}Lys^{34}(N^{4}-(\omega-carboxynonadecanoyl))-GLP-1(7-40).$

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In a further preferred embodiment, the GLP-1 derivative is $Lys^{26}(N^{*}-(\omega - carboxynonadecanoyl))Arg^{34}-GLP-1(7-40).$

In a further preferred embodiment, the GLP-1 derivative is $Gly^{8}Lys^{26}(N^{*}-(\omega-carboxynonadecanoyl))Arg^{34}-GLP-1(7-40).$

In a further preferred embodiment, the GLP-1 derivative is $Arg^{26,34}Lys^{36}(N^{*}-(\omega-$

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carboxynonadecanoyi))-GLP-1(7-40).

In a further preferred embodiment, the GLP-1 derivative is Gly⁸Arg^{26,34}Lys³⁶(N^ε-(ωcarboxynonadecanoyl))-GLP-1(7-40).

In a further preferred embodiment, the GLP-1 derivative is Lys²⁶(N^s-(7-deoxycholoyl))-10 GLP-1(7-37).

In a further preferred embodiment, the GLP-1 derivative is Lys³⁴(N^s-(7-deoxycholoyi))-GLP-1(7-37).

In a further preferred embodiment, the GLP-1 derivative is Lys^{26,34}-bis(N^{*}-(7-deoxycholoyi))-GLP-1(7-37).

In a further preferred embodiment, the GLP-1 derivative is Gly⁸Lys²⁶(N^e-(7-deoxycholoyl))-GLP-1(7-37).

In a further preferred embodiment, the GLP-1 derivative is Gly⁸Lys³⁴(N^e-(7-deoxycholoyl))-GLP-1(7-37).

In a further preferred embodiment, the GLP-1 derivative is Gly⁸Lys^{26,34}-bis(N^{*}-(7-20 deoxycholoyl))-GLP-1(7-37).

In a further preferred embodiment, the GLP-1 derivative is Arg²⁶Lys³⁴(N^t-(7-deoxycholoyl))-GLP-1(7-37).

In a further preferred embodiment, the GLP-1 derivative is Lys²⁶(N^s-(7-deoxycholoyl))-GLP-1(7-38).

In a further preferred embodiment, the GLP-1 derivative is Lys³⁴(N^s-(7-deoxycholoyl))-GLP-1(7-38).

In a further preferred embodiment, the GLP-1 derivative is Lys^{26,34}-bis(N^e-(7-deoxycholoyl))-GLP-1(7-38).

In a further preferred embodiment, the GLP-1 derivative is Gly⁸Lys²⁶(N^{*}-(7-30 deoxycholoyl))-GLP-1(7-38).

In a further preferred embodiment, the GLP-1 derivative is Gly⁸Lys³⁴(N^e-(7-deoxycholoyl))-GLP-1(7-38).

In a further preferred embodiment, the GLP-1 derivative is Gly⁸Lys^{26,34}-bis(N^e-(7-deoxycholoyl))-GLP-1(7-38).

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In a further preferred embodiment, the GLP-1 derivative is Arg²⁶Lys³⁴(N⁴-(7-deoxycholoyl))-GLP-1(7-38).

In a further preferred embodiment, the GLP-1 derivative is Lys²⁶(N^c-(7-deoxycholoyl))-GLP-1(7-39).

In a further preferred embodiment, the GLP-1 derivative is Lys³⁴(N^c-(7-deoxycholoyi))-GLP-1(7-39).

In a further preferred embodiment, the GLP-1 derivative is Lys^{26,34}-bis(N^s-(7-deoxycholoyl))-GLP-1(7-39).

In a further preferred embodiment, the GLP-1 derivative is Gly⁸Lys²⁶(N^{*}-(7-10 deoxycholoyl))-GLP-1(7-39).

In a further preferred embodiment, the GLP-1 derivative is Gly⁸Lys³⁴(N^s-(7-deoxycholoyl))-GLP-1(7-39).

In a further preferred embodiment, the GLP-1 derivative is Gly⁸Lys^{26,34}-bis(N^s-(7-deoxycholoyl))-GLP-1(7-39).

In a further preferred embodiment, the GLP-1 derivative is Arg²⁶Lys³⁴(N^e-(7-deoxycholoyI))-GLP-1(7-39).

In a further preferred embodiment, the GLP-1 derivative is Lys²⁶(N^c-(7-deoxycholoyl))-GLP-1(7-40).

In a further preferred embodiment, the GLP-1 derivative is Lys³⁴(N^r-(7-deoxycholoyl))-20 GLP-1(7-40).

In a further preferred embodiment, the GLP-1 derivative is Lys^{26,34}-bis(N^{*}-(7-deoxycholoyl))-GLP-1(7-40).

In a further preferred embodiment, the GLP-1 derivative is Gly⁸Lys²⁶(N^c-(7-deoxycholoyl))-GLP-1(7-40).

In a further preferred embodiment, the GLP-1 derivative is Gly⁸Lys³⁴(N^e-(7-deoxycholoyl))-GLP-1(7-40).

In a further preferred embodiment, the GLP-1 derivative is Gly⁸Lys^{26,34}-bis(N⁴-(7-deoxycholoyl))-GLP-1(7-40).

In a further preferred embodiment, the GLP-1 derivative is Arg²⁶Lys³⁴(N^s-(7-30 deoxycholoyl))-GLP-1(7-40).

In a further preferred embodiment, the GLP-1 derivative is Lys²⁶(N^{*}-(7-deoxycholoyl))-GLP-1(7-36).

In a further preferred embodiment, the GLP-1 derivative is Lys³⁴(N^{*}-(7-deoxycholoyi))-GLP-1(7-36).

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In a further preferred embodiment, the GLP-1 derivative is Lys^{28,34}-bis(N*-(7-deoxycholoyl))-GLP-1(7-36).

In a further preferred embodiment, the GLP-1 derivative is Gly⁸Lys²⁶(N^{*}-(7-deoxycholoyi))-GLP-1(7-36).

5 In a further preferred embodiment, the GLP-1 derivative is Gly⁸Lys³⁴(N^e-(7-deoxycholoyl))-GLP-1(7-36).

In a further preferred embodiment, the GLP-1 derivative is Gly⁸Lys^{28,34}-bis(N^{*}-(7-deoxycholoyi))-GLP-1(7-36).

In a further preferred embodiment, the GLP-1 derivative is Arg²⁶Lys³⁴(N^e-(7-10 deoxycholoyl))-GLP-1(7-36).

In a further preferred embodiment, the GLP-1 derivative is Lys²⁶(N^s-(7-deoxycholoyl))-GLP-1(7-36)amide.

In a further preferred embodiment, the GLP-1 derivative is Lys³⁴(N^s-(7-deoxycholoyi))-GLP-1(7-36)amide.

In a further preferred embodiment, the GLP-1 derivative is Lys^{28,34}-bis(N^s-(7deoxycholoyl))-GLP-1(7-36)amide.

In a further preferred embodiment, the GLP-1 derivative is Gly⁸Lys²⁶(N^c-(7-deoxycholoyl))-GLP-1(7-36)amide.

In a further preferred embodiment, the GLP-1 derivative is Gly^sLys³⁴(N^e-(7-20 deoxycholoyl))-GLP-1(7-36)amide.

In a further preferred embodiment, the GLP-1 derivative is Gly⁸Lys^{26,34}-bis(N^e-(7-deoxycholoyl))-GLP-1(7-36)amide.

In a further preferred embodiment, the GLP-1 derivative is Arg²⁶Lys³⁴(N^s-(7-deoxycholoyl))-GLP-1(7-36)amide.

In a further preferred embodiment, the GLP-1 derivative is Gly⁸Arg²⁶Lys³⁴(N^{*}-(7-deoxycholoyl))-GLP-1(7-37).

In a further preferred embodiment, the GLP-1 derivative is Lys²⁶(N^a-(7-deoxycholoyl))Arg³⁴-GLP-1(7-37).

In a further preferred embodiment, the GLP-1 derivative is Gly⁸Lys²⁶(N^e-(7-30 deoxycholoyl))Arg³⁴-GLP-1(7-37).

In a further preferred embodiment, the GLP-1 derivative is Arg^{26,34}Lys³⁶(N^ε-(7-deoxycholoyl))-GLP-1(7-37).

In a further preferred embodiment, the GLP-1 derivative is Gly⁸Arg^{26,34}Lys³⁶(N^{*}-(7-deoxycholoyl))-GLP-1(7-37).

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In a further preferred embodiment, the GLP-1 derivative is Lys²⁶(N^s-(choloyl))-GLP-1(7-37).

In a further preferred embodiment, the GLP-1 derivative is Lys³⁴(N^{*}-(choloyl))-GLP-1(7-37).

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In a further preferred embodiment, the GLP-1 derivative is Lys^{26,34}-bis(N^s-(choloyl))-GLP-1(7-37).

In a further preferred embodiment, the GLP-1 derivative is Gly⁸Lys²⁶(N^{*}-(choloyI))-GLP-1(7-37).

In a further preferred embodiment, the GLP-1 derivative is Gly⁸Lys³⁴(N^e-(choloyl))-10 GLP-1(7-37).

In a further preferred embodiment, the GLP-1 derivative is Gly⁸Lys^{26,34}-bis(N^s-(choloyl))-GLP-1(7-37).

In a further preferred embodiment, the GLP-1 derivative is Arg²⁶Lys³⁴(N^c-(choloyl))-GLP-1(7-37).

In a further preferred embodiment, the GLP-1 derivative is Gly⁸Arg²⁶Lys³⁴(N^s-(7-deoxycholoyl))-GLP-1(7-38).

In a further preferred embodiment, the GLP-1 derivative is Lys²⁶(N^t-(7-deoxycholoyl))Arg³⁴-GLP-1(7-38).

In a further preferred embodiment, the GLP-1 derivative is Gly⁸Lys²⁶(N^{*}-(7-20 deoxycholoyl))Arg³⁴-GLP-1(7-38).

In a further preferred embodiment, the GLP-1 derivative is Arg^{26,34}Lys³⁶(N^{*}-(7-deoxycholoyl))-GLP-1(7-38).

In a further preferred embodiment, the GLP-1 derivative is Arg^{26,34}Lys³⁸(N^s-(7-deoxycholoyl))-GLP-1(7-38).

In a further preferred embodiment, the GLP-1 derivative is Gly⁸Arg^{26,34}Lys³⁶(N⁴-(7-deoxycholoyl))-GLP-1(7-38).

In a further preferred embodiment, the GLP-1 derivative is Lys²⁶(N^{*}-(choloyl))-GLP-1(7-38).

In a further preferred embodiment, the GLP-1 derivative is Lys³⁴(N⁴-(choloyl))-GLP-30 1(7-38).

In a further preferred embodiment, the GLP-1 derivative is Lys^{26,34}-bis(N^{*}-(choloyi))-GLP-1(7-38).

In a further preferred embodiment, the GLP-1 derivative is Gly⁸Lys²⁶(N^s-(choloyl))-GLP-1(7-38).

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In a further preferred embodiment, the GLP-1 derivative is Gly⁸Lys³⁴(N^e-(choloyi))-GLP-1(7-38).

In a further preferred embodiment, the GLP-1 derivative is Gly⁸Lys^{26,34}-bis(N⁴-(choloyl))-GLP-1(7-38).

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In a further preferred embodiment, the GLP-1 derivative is Arg²⁶Lys³⁴(N^s-(choloyl))-GLP-1(7-38).

In a further preferred embodiment, the GLP-1 derivative is Gly⁸Arg²⁶Lys³⁴(N^s-(7-deoxycholovi))-GLP-1(7-39).

In a further preferred embodiment, the GLP-1 derivative is Lys²⁶(N^{*}-(7deoxycholoyi))Arg³⁴-GLP-1(7-39).

In a further preferred embodiment, the GLP-1 derivative is Gly⁸Lys²⁶(N^{*}-(7-deoxycholoyl))Arg³⁴-GLP-1(7-39).

In a further preferred embodiment, the GLP-1 derivative is Arg^{26,34}Lys³⁶(N^s-(7-deoxycholoyl))-GLP-1(7-39).

In a further preferred embodiment, the GLP-1 derivative is Gly⁸Arg^{28,34}Lys³⁶(N^s-(7-deoxycholoyl))-GLP-1(7-39).

In a further preferred embodiment, the GLP-1 derivative is Lys²⁶(N^{*}-(choloyl))-GLP-1(7-39).

In a further preferred embodiment, the GLP-1 derivative is Lys³⁴(N^s-(choloyl))-GLP-20 1(7-39).

In a further preferred embodiment, the GLP-1 derivative is Lys^{28,34}-bis(N^s-(choloyl))-GLP-1(7-39).

In a further preferred embodiment, the GLP-1 derivative is Gly⁸Lys²⁶(N^e-(choloyl))-GLP-1(7-39).

In a further preferred embodiment, the GLP-1 derivative is Gly⁸Lys³⁴(N^c-(choloyl))-GLP-1(7-39).

In a further preferred embodiment, the GLP-1 derivative is Gly⁸Lys^{26,34}-bis(N⁴- (choloyl))-GLP-1(7-39).

In a further preferred embodiment, the GLP-1 derivative is Arg²⁶Lys³⁴(N^s-(choloyl))-30 GLP-1(7-39).

In a further preferred embodiment, the GLP-1 derivative is Gly⁸Arg²⁶Lys³⁴(N^ε-(7-deoxycholoyl))-GLP-1(7-40).

In a further preferred embodiment, the GLP-1 derivative is Lys²⁶(N^s-(7-deoxycholoyl))Arg³⁴-GLP-1(7-40).

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In a further preferred embodiment, the GLP-1 derivative is Gly⁸Lys²⁶(N^{*}-(7-deoxycholoyl))Arg³⁴-GLP-1(7-40).

In a further preferred embodiment, the GLP-1 derivative is Arg^{26,34}Lys³⁶(N^s-(7-deoxycholoyl))-GLP-1(7-40).

In a further preferred embodiment, the GLP-1 derivative is Gly⁸Arg^{26,34}Lys³⁶(N^{*}-(7-deoxycholoyl))-GLP-1(7-40).

In a further preferred embodiment, the GLP-1 derivative is Lys²⁶(N^{*}-(choloyl))-GLP-1(7-40).

In a further preferred embodiment, the GLP-1 derivative is $Lys^{34}(N^{\epsilon}-(choloyl))$ -GLP-10 1(7-40).

In a further preferred embodiment, the GLP-1 derivative is Lys^{26,34}-bis(N^s-(choloy!))-GLP-1(7-40).

In a further preferred embodiment, the GLP-1 derivative is Gly⁸Lys²⁶(N^c-(choloyl))-GLP-1(7-40).

In a further preferred embodiment, the GLP-1 derivative is Gly⁸Lys³⁴(N^{*}-(choloyl))-GLP-1(7-40).

In a further preferred embodiment, the GLP-1 derivative is Gly⁸Lys^{26,34}-bis(N^{*}-(choloyl))-GLP-1(7-40).

In a further preferred embodiment, the GLP-1 derivative is Arg²⁶Lys³⁴(N^e-(choloyl))-20 GLP-1(7-40).

In a further preferred embodiment, the GLP-1 derivative is Lys²⁶(N^{*}-(choloyl))-GLP-1(7-36).

In a further preferred embodiment, the GLP-1 derivative is Lys³⁴(N^t-(choloyl))-GLP-1(7-36).

In a further preferred embodiment, the GLP-1 derivative is Lys^{26,34}-bis(N^s-(choloyl))-GLP-1(7-36).

In a further preferred embodiment, the GLP-1 derivative is Gly⁸Lys²⁶(N⁴-(choloy!))-GLP-1(7-36).

In a further preferred embodiment, the GLP-1 derivative is Gly⁸Lys³⁴(N^{*}-(choloyl))-30 GLP-1(7-36).

In a further preferred embodiment, the GLP-1 derivative is Gly^aLys^{26,34}-bis(N^{*}- (choloyl))-GLP-1(7-36).

In a further preferred embodiment, the GLP-1 derivative is Arg²⁶Lys³⁴(N^e-(choloyl))-GLP-1(7-36).

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In a further preferred embodiment, the GLP-1 derivative is Lys²⁶(N^t-(choloyl))-GLP-1(7-36)amide.

In a further preferred embodiment, the GLP-1 derivative is Lys³⁴(N^e-(choloyl))-GLP-1(7-36)amide.

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In a further preferred embodiment, the GLP-1 derivative is Lys^{26,34}-bis(N^s-(choloyl))-GLP-1(7-36)amide.

In a further preferred embodiment, the GLP-1 derivative is Gly⁸Lys²⁶(N^s-(choloy!))-GLP-1(7-36)amide.

In a further preferred embodiment, the GLP-1 derivative is Gly⁸Lys³⁴(N⁴-(choloyI))-10 GLP-1(7-36)amide.

In a further preferred embodiment, the GLP-1 derivative is Gly⁸Lys^{26,34}-bis(N^{*}- (cholovl))-GLP-1(7-36)amide.

In a further preferred embodiment, the GLP-1 derivative is Arg²⁶Lys³⁴(N^s-(choloyl))-GLP-1(7-36)amide.

In a further preferred embodiment, the GLP-1 derivative is Gly⁸Arg²⁶Lys³⁴(N⁶-(choloyi))-GLP-1(7-37).

In a further preferred embodiment, the GLP-1 derivative is Lys²⁶(N^s-(choloyl))Arg³⁴-GLP-1(7-37).

In a further preferred embodiment, the GLP-1 derivative is Gly⁸Lys²⁶(N^{*}-20 (choloyl))Arg³⁴-GLP-1(7-37).

In a further preferred embodiment, the GLP-1 derivative is Arg^{26,34}Lys³⁶(N^{*}-(choloy!))-GLP-1(7-37).

In a further preferred embodiment, the GLP-1 derivative is Gly⁸Arg^{26,34}Lys³⁶(N^{*}- (choloyl))-GLP-1(7-37).

In a further preferred embodiment, the GLP-1 derivative is Lys²⁶(N^e-(lithocholoyl))-GLP-1(7-37).

In a further preferred embodiment, the GLP-1 derivative is Lys³⁴(N^s-(lithocholoyl))-GLP-1(7-37).

In a further preferred embodiment, the GLP-1 derivative is Lys^{26,34}-bis(N^{*}-30 (lithocholoyl))-GLP-1(7-37).

In a further preferred embodiment, the GLP-1 derivative is Gly⁸Lys²⁶(N^{*}-(lithocholoyl))-GLP-1(7-37).

In a further preferred embodiment, the GLP-1 derivative is Gly⁸Lys³⁴(N⁴-(lithocholoyl))-GLP-1(7-37). In a further preferred embodiment, the GLP-1 derivative is Gly⁸Lys^{26,34}-bis(N^{*}-(lithocholoyl))-GLP-1(7-37).

In a further preferred embodiment, the GLP-1 derivative is Arg²⁶Lys³⁴(N^{*}-(lithocholoyl))-GLP-1(7-37).

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In a further preferred embodiment, the GLP-1 derivative is Gly⁸Arg²⁶Lys³⁴(N⁴-(choloyl))-GLP-1(7-38).

In a further preferred embodiment, the GLP-1 derivative is Lys²⁸(N^s-(choloyl))Arg³⁴-GLP-1(7-38).

In a further preferred embodiment, the GLP-1 derivative is Gly⁸Lys²⁶(N^{*}-10 (choloyl))Arg³⁴-GLP-1(7-38).

In a further preferred embodiment, the GLP-1 derivative is Arg^{26,34}Lys³⁶(N^{*}-(choloy!))-GLP-1(7-38).

In a further preferred embodiment, the GLP-1 derivative is Arg^{26,34}Lys³⁸(N^s-(choloyl))-GLP-1(7-38).

In a further preferred embodiment, the GLP-1 derivative is Gly⁸Arg^{26,34}Lys³⁶(N⁴-(choloyl))-GLP-1(7-38).

In a further preferred embodiment, the GLP-1 derivative is Lys²⁶(N^{*}-(lithocholoyi))-GLP-1(7-38).

In a further preferred embodiment, the GLP-1 derivative is Lys³⁴(N^{*}-(lithocholoyl))-GLP-1(7-38)

In a further preferred embodiment, the GLP-1 derivative is Lys^{26,34}-bis(N^s-(lithocholoyl))-GLP-1(7-38),

In a further preferred embodiment, the GLP-1 derivative is Gly⁸Lys²⁶(N^{*}-(lithocholoyl))-GLP-1(7-38),

In a further preferred embodiment, the GLP-1 derivative is Gly⁸Lys³⁴(N⁴-(lithocholoyl))-GLP-1(7-38),

In a further preferred embodiment, the GLP-1 derivative is Gly⁸Lys^{26,34}-bis(N^{*}-(lithocholoy!))-GLP-1(7-38),

In a further preferred embodiment, the GLP-1 derivative is Arg²⁶Lys³⁴(N⁻-30 (lithocholoyl))-GLP-1(7-38),

In a further preferred embodiment, the GLP-1 derivative is Gly⁸Arg²⁶Lys³⁴(N^{*}- (choloyi))-GLP-1(7-39),

In a further preferred embodiment, the GLP-1 derivative is Lys²⁶(N^e-(choloyl))Arg³⁴-GLP-1(7-39),

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In a further preferred embodiment, the GLP-1 derivative is Gly⁸Lys²⁶(N^{*}-(choloyl))Arg³⁴-GLP-1(7-39),

In a further preferred embodiment, the GLP-1 derivative is Arg^{28,34}Lys³⁶(N^{*}-(choloyl))-GLP-1(7-39),

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In a further preferred embodiment, the GLP-1 derivative is Gly⁸Arg^{26,34}Lys³⁶(N^{*}-(choloyi))-GLP-1(7-39),

In a further preferred embodiment, the GLP-1 derivative is Lys²⁸(N^{*}-(lithocholoy!))-GLP-1(7-39),

In a further preferred embodiment, the GLP-1 derivative is Lys³⁴(N^s-(lithocholoyl))-10 GLP-1(7-39),

In a further preferred embodiment, the GLP-1 derivative is Lys^{28,34}-bis(N^{*}-(lithocholoyl))-GLP-1(7-39),

In a further preferred embodiment, the GLP-1 derivative is Gly⁸Lys²⁶(N^{*}-(lithocholoyl))-GLP-1(7-39),

In a further preferred embodiment, the GLP-1 derivative is Gly⁸Lys³⁴(N^{*}-(lithocholoyl))-GLP-1(7-39),

In a further preferred embodiment, the GLP-1 derivative is Gly⁸Lys^{26,34}-bis(N⁻-(lithocholoyl))-GLP-1(7-39),

In a further preferred embodiment, the GLP-1 derivative is Arg²⁶Lys³⁴(N^c-20 (lithocholoyl))-GLP-1(7-39).

In a further preferred embodiment, the GLP-1 derivative is Gly⁸Arg²⁶Lys³⁴(N⁴-(choloyl))-GLP-1(7-40),

In a further preferred embodiment, the GLP-1 derivative is Lys²⁶(N^{*}-(choloyi))Arg³⁴-GLP-1(7-40),

In a further preferred embodiment, the GLP-1 derivative is Gly⁸Lys²⁶(N^t-(choloyl))Arg³⁴-GLP-1(7-40),

In a further preferred embodiment, the GLP-1 derivative is Arg^{26,34}Lys³⁶(N^{*}-(choloyl))-GLP-1(7-40),

In a further preferred embodiment, the GLP-1 derivative is Gly⁸Arg^{28,34}Lys³⁶(N⁴-30 (choloyl))-GLP-1(7-40),

In a further preferred embodiment, the GLP-1 derivative is Lys²⁶(N^{*}-(lithocholoyl))-GLP-1(7-40),

In a further preferred embodiment, the GLP-1 derivative is Lys³⁴(N^{*}-(lithocholoyl))-GLP-1(7-40),

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In a further preferred embodiment, the GLP-1 derivative is Lys^{26,34}-bis(N^s-(lithocholoyl))-GLP-1(7-40),

In a further preferred embodiment, the GLP-1 derivative is Gly⁸Lys²⁶(N*-(lithocholoyl))-GLP-1(7-40),

In a further preferred embodiment, the GLP-1 derivative is Gly^aLys³⁴(N^s-(lithocholoyl))-GLP-1(7-40),

In a further preferred embodiment, the GLP-1 derivative is Gly⁸Lys^{28.34}-bis(N^{*}-(lithocholoyi))-GLP-1(7-40).

In a further preferred embodiment, the GLP-1 derivative is Arg²⁶Lys³⁴(N^ε-10 (lithocholoyl))-GLP-1(7-37).

In a further preferred embodiment, the GLP-1 derivative is Lys²⁶(N*-(lithocholoyl))-GLP-1(7-36).

In a further preferred embodiment, the GLP-1 derivative is Lys³⁴(N^c-(lithocholoyl))-GLP-1(7-36).

In a further preferred embodiment, the GLP-1 derivative is Lys^{26,34}-bis(N^s-(lithocholoyl))-GLP-1(7-36).

In a further preferred embodiment, the GLP-1 derivative is Gly⁸Lys²⁶(N^{*}-(lithocholoy!))-GLP-1(7-36).

In a further preferred embodiment, the GLP-1 derivative is Gly⁸Lys³⁴(N^{*}-(lithocholoyl))-20 GLP-1(7-36).

In a further preferred embodiment, the GLP-1 derivative is Gly⁸Lys^{26,34}-bis(N^e-(lithocholoyl))-GLP-1(7-36).

In a further preferred embodiment, the GLP-1 derivative is Arg²⁶Lys³⁴(N^s- (lithocholoyl))-GLP-1(7-36).

In a further preferred embodiment, the GLP-1 derivative is Lys²⁶(N^{*}-(lithocholoyl))-GLP-1(7-36)amide.

In a further preferred embodiment, the GLP-1 derivative is Lys³⁴(N^{*}-(lithocholoy!))-GLP-1(7-36)amide.

In a further preferred embodiment, the GLP-1 derivative is Lys^{26.34}-bis(N^e-30 (lithocholoyi))-GLP-1(7-36)amide.

In a further preferred embodiment, the GLP-1 derivative is Gly⁸Lys²⁶(N^s-(lithocholoyl))-GLP-1(7-36)amide.

In a further preferred embodiment, the GLP-1 derivative is Gly⁸Lys³⁴(N^{*}-(lithocholoyl))-GLP-1(7-36)amide.

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In a further preferred embodiment, the GLP-1 derivative is Gly⁸Lys^{26,34}-bis(N^{*}-(lithocholoyl))-GLP-1(7-36)amide.

In a further preferred embodiment, the GLP-1 derivative is Arg²⁶Lys³⁴(N^{*}-(lithocholoyl))-GLP-1(7-36)amide.

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In a further preferred embodiment, the GLP-1 derivative is Gly⁸Arg²⁶Lys³⁴(N^{*}- (lithocholoyl))-GLP-1(7-37).

In a further preferred embodiment, the GLP-1 derivative is Lys²⁶(N^{*}-(lithocholoy!))Arg³⁴-GLP-1(7-37).

In a further preferred embodiment, the GLP-1 derivative is Gly⁸Lys²⁶(N^{*}-10 (lithocholoyl))Arg³⁴-GLP-1(7-37).

In a further preferred embodiment, the GLP-1 derivative is Arg^{26,34}Lys³⁶(N^{*}- (lithocholoyi))-GLP-1(7-37).

In a further preferred embodiment, the GLP-1 derivative is Arg^{26,34}Lys³⁸(N^{*}- (lithocholoyl))-GLP-1(7-37).

In a further preferred embodiment, the GLP-1 derivative is Gly⁸Arg^{26,34}Lys³⁶(N^{*}- (lithocholoyl))-GLP-1(7-37).

In a further preferred embodiment, the GLP-1 derivative is Gly⁸Arg²⁶Lys³⁴(N^{*}-(lithocholoy!))-GLP-1(7-38).

In a further preferred embodiment, the GLP-1 derivative is Lys²⁶(N^{*}-20 (lithocholoyl))Arg³⁴-GLP-1(7-38).

In a further preferred embodiment, the GLP-1 derivative is Gly⁸Lys²⁶(N^{*}- (lithocholoyl))Arg³⁴-GLP-1(7-38).

In a further preferred embodiment, the GLP-1 derivative is Arg^{26,34}Lys³⁶(N^{*}- (lithocholoyl))-GLP-1(7-38).

In a further preferred embodiment, the GLP-1 derivative is Arg^{26,34}Lys³⁸(N^{*}- (lithocholoyl))-GLP-1(7-38).

In a further preferred embodiment, the GLP-1 derivative is Gly⁸Arg^{26,34}Lys³⁶(N^e-(lithocholovi))-GLP-1(7-38).

In a further preferred embodiment, the GLP-1 derivative is Gly⁸Arg²⁶Lys³⁴(N^{*}-30 (lithocholoyl))-GLP-1(7-39).

In a further preferred embodiment, the GLP-1 derivative is Lys²⁶(N^s-(lithocholoyl))Arg³⁴-GLP-1(7-39).

In a further preferred embodiment, the GLP-1 derivative is Gly⁸Lys²⁶(N^{*}-(lithocholoyl))Arg³⁴-GLP-1(7-39).

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In a further preferred embodiment, the GLP-1 derivative is Arg^{26,34}Lys³⁶(N^{*}- (lithocholoy!))-GLP-1(7-39).

In a further preferred embodiment, the GLP-1 derivative is Gly⁸Arg^{28,34}Lys³⁶(N^{*}- (lithocholoyl))-GLP-1(7-39).

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In a further preferred embodiment, the GLP-1 derivative is Gly⁸Arg²⁶Lys³⁴(N^{*}- (lithocholoyi))-GLP-1(7-40).

in a further preferred embodiment, the GLP-1 derivative is Lys²⁶(N^s- (lithocholoyl))Arg³⁴-GLP-1(7-40).

In a further preferred embodiment, the GLP-1 derivative is Gly⁸Lys²⁶(N^s-10 (lithocholoyl))Arg³⁴-GLP-1(7-40).

In a further preferred embodiment, the GLP-1 derivative is Arg^{26,34}Lys³⁶(N^s- (lithocholoyl))-GLP-1(7-40).

In a further preferred embodiment, the GLP-1 derivative is Gly⁶Arg^{26,34}Lys³⁶(N^ε- (lithocholoyl))-GLP-1(7-40).

In a further preferred embodiment, the GLP-1 derivative is Arg³⁴,Lys²⁶(N^e-decanoyl) GLP-1 (7-37).

In a further preferred embodiment, the GLP-1 derivative is Lys³⁴ (N^{*}-(γ -glutamyl(N^{*}- tetradecanoyl))) GLP-1 (7-37).

In a further preferred embodiment, the GLP-1 derivative is Arg^{26,34},Lys⁸(Ν^ε-(γglutamyl(N^α-hexadecanoyi))) GLP-1 (7-37).

In a further preferred embodiment, the GLP-1 derivative is Arg^{34} , Lys²⁶(N^r-(γ -glutamyl(N^e-dodecanoyl))) GLP-1 (7-37).

In a further preferred embodiment, the GLP-1 derivative is Arg^{34} , Lys²⁶(N^s-(β-

25 alanyl(N[°]-hexadecanoyl))) GLP-1 (7-37).

In a further preferred embodiment, the GLP-1 derivative is Arg³⁴,Lys²⁶(N^ε-(αglutamyl(N^α-hexadecanoyl))) GLP-1 (7-37).

In a further preferred embodiment, the GLP-1 derivative is Arg³⁴,Lys²⁶(N^c-(piperidinyl-4-carbonyl(N-hexadecanoyl))) GLP-1 (7-37).

In a further preferred embodiment, the GLP-1 derivative is Arg^{34} , Lys²⁶(N^{*}-(γ -glutamyl(N^e-decanoyl))) GLP-1 (7-37).

Other preferred embodiments will be described using the following abbreviations: Glut = $N^t-(\gamma-L-glutamyl)$

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Gly⁸Arg²⁶Lys³⁴-(Glut-ADod)-GLP-1(7-39); Gly⁸Arg^{28,34}Lys³⁹-(Glut-ADod)-GLP-1(7-39); Val[®]Arg³⁴Lys^{2®}-(Glut-ADod)-GLP-1(7-36); Val⁸Arg²⁶Lys³⁴-(Glut-ADod)-GLP-1(7-36); Val⁸Arg²⁶Lys³⁴-(Glut-ADod)-GLP-1(7-36)amide; Val⁸Arg^{26,34}Lvs³⁶-(Glut-ADod)-GLP-1(7-36); Val⁸Arg^{26,34}Lys³⁶-(Glut-ADod)-GLP-1(7-Val⁸Arg³⁴Lys²⁸-(Glut-ADod)-GLP-1(7-36)amide; 36)amide; Val⁸Arg²⁶Lys³⁴-(Glut-ADod)-GLP-1(7-37); Val⁸Arg³⁴Lys²⁶-(Glut-ADod)-GLP-1(7-37); Val⁸Arg²⁶Lys³⁴-(Glut-ADod)-GLP-1(7-38); Val⁸Arg^{26,34}Lvs³⁶-(Glut-ADod)-GLP-1(7-37);

- 20 Arg^{26,34}Lys³⁹-(Glut-ADod)-GLP-1(7-39); Giy⁸Arg³⁴Lys²⁶-(Glut-ADod)-GLP-1(7-36); Gly⁸Arg²⁶Lys³⁴-(Glut-ADod)-GLP-1(7-36); Gly⁸Arg²⁶Lys³⁴-(Glut-ADod)-GLP-1(7-36)amide; Gly⁸Arg^{26,34}Lys³⁶-(Glut-ADod)-GLP-1(7-36); Glv⁸Arg^{26,34}Lys³⁶-(Glut-ADod)-GLP-1(7-Gly8Arg34Lys26-(Glut-ADod)-GLP-1(7-36)amide; 36)amide; Gly⁸Arg²⁶Lys³⁴-(Glut-ADod)-GLP-1(7-37); Gly⁸Arg³⁴Lys²⁶-(Glut-ADod)-GLP-1(7-37); 25 Gly⁸Arg²⁶Lys³⁴-(Glut-ADod)-GLP-1(7-38); Gly⁸Arg^{26,34}Lys³⁶-(Glut-ADod)-GLP-1(7-37); Gly8Arg26,34Lys38-(Glut-ADod)-GLP-1(7-38); Gly⁸Arg³⁴Lys²⁶-(Glut-ADod)-GLP-1(7-38) : Glv⁸Ara³⁴Lvs²⁶-(Glut-ADod)-GLP-1(7-39);
- Arg²⁶Lys³⁴-(Glut-ADod)-GLP-1(7-36); Arg³⁴Lys²⁶-(Glut-ADod)-GLP-1(7-36); Arg^{26,34}Lys³⁶-(Glut-15 ADod)-GLP-1(7-36); Arg²⁶Lys³⁴-(Glut-ADod)-GLP-1(7-36)amide; Arg³⁴ Lys²⁶-(Glut-ADod)-GLP-1(7-36)amide; Arg^{26,34}Lys³⁶-(Glut-ADod)-GLP-1(7-36)amide; Arg²⁶ Lys³⁴-(Glut-ADod)-GLP-1(7-37); Arg³⁴Lys²⁶-(Glut-ADod)-GLP-1(7-37); Arg^{26,34}Lys³⁶-(Glut-ADod)-GLP-1(7-37); Arg²⁶Lys³⁴-(Glut-ADod)-GLP-1(7-38); Arg³⁴Lys²⁵-(Glut-ADod)-GLP-1(7-38) ; Arg^{26,34}Lys³⁸-(Glut-ADod)-Arg³⁴Lys²⁶-(Glut-ADod)-GLP-1(7-39); Arg²⁶Lys³⁴-(Glut-ADod)-GLP-1(7-39); GLP-1(7-38);

Other preferred derivatives of GLP-1 analogues of the present invention are:

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 $GLit = N^r$ -lithocholyl

GOct = Nr-octadecanoyl

GHex = N^r-hexadecanoyi

GTet = N^r-tetradecanoyl

GDod = N^r-dodecanoyl

ALit = N^a-lithocholyl

AOct = N°-octadecanoyl

ATet = N°-tetradecanoyl

AHex = N^a-hexadecanoyl

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ADod = N^ª-dodecanoyl

 $GAB = N^{\epsilon} - (\alpha - (\gamma - aminobutanoyl))$

Givc = N^{*}-glycyl

Aspa = N'-(β -L-asparagyl)

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Val⁸Arg³⁴Lys²⁶-(Glut-ADod)-GLP-1(7-38) : Val⁸Arg²⁶Lys³⁴-(Glut-ADod)-GLP-1(7-39); Val⁸Arg^{26,34}Lys³⁹-(Glut-ADod)-GLP-1(7-39); Ser⁸Arg²⁶Lys³⁴-(Glut-ADod)-GLP-1(7-36);

Val⁸Arg^{26,34}Lys³⁸-(Glut-ADod)-GLP-1(7-38); Val[®]Arg³⁴Lys²⁸-(Glut-ADod)-GLP-1(7-39);

Ser⁸Arg³⁴Lys²⁸-(Glut-ADod)-GLP-1(7-36); Ser^aArg²⁶Lys³⁴-(Glut-ADod)-GLP-1(7-36)amide; Ser⁸Arg^{26,34}Lys³⁶-(Glut-ADod)-GLP-1(7-Ser⁸Arg³⁴Lys²⁶-(Glut-ADod)-GLP-1(7-36)amide; 36)amide; Ser^aArg²⁶Lys³⁴-(Glut-ADod)-GLP-1(7-37); Ser^aArg³⁴Lys²⁶-(Glut-ADod)-GLP-1(7-37); Ser⁸Arg²⁶Lys³⁴-(Glut-ADod)-GLP-1(7-38); Ser⁸Arg^{26,34}Lys³⁸-(Glut-ADod)-GLP-1(7-38); Ser⁸Arg³⁴Lys²⁶-(Glut-ADod)-GLP-1(7-39);

Ser⁸Arg³⁴Lys²⁶-(Glut-ADod)-GLP-1(7-38) Ser⁸Arg²⁶Lys³⁴-(Glut-ADod)-GLP-1(7-39); Ser⁸Arg^{26,34}Lys³⁹-(Glut-ADod)-GLP-1(7-39); Thr^aArg²⁶Lys³⁴-(Glut-ADod)-GLP-1(7-36); Thr⁸Arg^{26,34}Lys³⁶-(Glut-ADod)-GLP-1(7-36); Thr⁸Arg³⁴Lys²⁶-(Glut-ADod)-GLP-1(7-36)amide;

Ser⁸Arg^{26,34}Lys³⁶-(Glut-ADod)-GLP-1(7-36);

Ser⁸Arg^{26,34}Lys³⁶-(Glut-ADod)-GLP-1(7-37);

36)amide; Thr8Arg26Lys34-(Glut-ADod)-GLP-1(7-37); Thr8Arg34Lys26-(Glut-ADod)-GLP-1(7-37); Thr⁸Arg^{26,34}Lys³⁶-(Glut-ADod)-GLP-1(7-37); Thr⁸Arg³⁴Lys²⁶-(Glut-ADod)-GLP-1(7-38) Thr⁸Arg²⁶Lys³⁴-(Glut-ADod)-GLP-1(7-39); Thr⁸Arg^{26,34}Lys³⁹-(Glut-ADod)-GLP-1(7-39);

Thr⁸Ara³⁴Lvs²⁶-(Glut-ADod)-GLP-1(7-36); Thr⁸Arg²⁶Lys³⁴-(Glut-ADod)-GLP-1(7-36)amide; Thr8Arg28,34Lys36-(Glut-ADod)-GLP-1(7-Thr⁸Arg²⁶Lys³⁴-(Glut-ADod)-GLP-1(7-38); Thr⁸Arg^{28,34}Lys³⁸-(Glut-ADod)-GLP-1(7-38); Thr⁸Arg³⁴Lys²⁸-(Glut-ADod)-GLP-1(7-39);

Gly8Glu35Arg26,34Lys36-(Glut-ADod)-GLP-1(7-Gty⁸Glu³⁵Arg^{26,34}Lys³⁶-(Glut-ADod)-GLP-1(7-36); 20 36)amide; Gly⁸Glu³⁶Arg^{26,34}Lys³⁷-(Glut-ADod)-GLP-1(7-37); Gly⁸Glu³⁷Arg^{26,34}Lys³⁸-(Glut-ADod)-GLP-1(7-38); Gly⁸Glu³⁸Arg^{28,34}Lys³⁹-(Glut-ADod)-GLP-1(7-39); Gly⁸Glu³⁵Arg^{28,34}Lys³⁸-(Glut-Gly⁸Glu³⁵Arg^{26,34}Lys³⁶-(Glut-ADod)-GLP-1(7-36)amide; ADod)-GLP-1(7-36); Gly⁸Glu³⁷Arg^{28,34}Lys³⁸-(Glut-ADod)-GLP-1(7-Gly⁸Glu³⁶Arg^{28,34}Lys³⁷-(Glut-ADod)-GLP-1(7-37); 38); Gly⁸Glu³⁸Arg^{26,34}Lys³⁹-(Glut-ADod)-GLP-1(7-39); 25

Gly8Asp35Arg28.34Lys38-(Glut-ADod)-GLP-1(7-36); Gly8Asp35Arg28.34Lys38-(Glut-ADod)-GLP-1(7-36)amide; Gly⁸Asp³⁶Arg^{26,34}Lys³⁷-(Glut-ADod)-GLP-1(7-37); Gly⁸Asp³⁷Arg^{26,34}Lys³⁸-(Glut-ADod)-GLP-1(7-38); Gly⁸Asp³⁸Arg^{26,34}Lys³⁹-(Glut-ADod)-GLP-1(7-39); Gly⁸Asp³⁵Arg^{26,34}Lys³⁶-(Glut-Gly⁸Asp³⁵Arg^{26,34}Lys³⁶-(Glut-ADod)-GLP-1(7-36)amide; ADod)-GLP-1(7-36); Gly⁸Asp³⁶Arg^{26,34}Lys³⁷-(Glut-ADod)-GLP-1(7-37); Gly⁸Asp³⁷Arg^{26,34}Lys³⁸-(Glut-ADod)-GLP-1(7-30

38); Gly⁸Asp³⁸Arg^{26,34}Lys³⁹-(Glut-ADod)-GLP-1(7-39); Val[®]Glu³⁵Arg^{26,34}Lys³⁶-(Glut-ADod)-GLP-1(7-Val⁸Glu³⁵Arg^{26,34}Lys³⁶-(Glut-ADod)-GLP-1(7-36); 36)amide; Val⁸Glu³⁶Arg^{26,34}Lys³⁷-(Glut-ADod)-GLP-1(7-37); Val⁸Glu³⁷Arg^{26,34}Lys³⁸-(Glut-ADod)-Val8Glu35Arg26,34Lys36-(Glut-Val⁸Glu³⁸Arg^{26,34}Lys³⁹-(Glut-ADod)-GLP-1(7-39); GLP-1(7-38):

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 ADod)-GLP-1(7-36);
 Val⁸Glu³⁵Arg^{28,34}Lys³⁶-(Glut-ADod)-GLP-1(7-36)amide;

 Val⁸Glu³⁶Arg^{28,34}Lys³⁷-(Glut-ADod)-GLP-1(7-37);
 Val⁸Glu³⁷Arg^{28,34}Lys³⁸-(Glut-ADod)-GLP-1(7-37);

 38); Val⁸Glu³⁸Arg^{28,34}Lys³⁹-(Glut-ADod)-GLP-1(7-39);

- Val⁸Asp³⁵Arg^{26,34}Lys³⁶-(Glut-ADod)-GLP-1(7-36); Val⁸Asp³⁵Arg^{26,34}Lys³⁶-(Glut-ADod)-GLP-1(7-36); Val⁸Asp³⁶Arg^{26,34}Lys³⁷-(Glut-ADod)-GLP-1(7-37); Val⁸Asp³⁷Arg^{26,34}Lys³⁸-(Glut-ADod)-GLP-1(7-38); Val⁸Asp³⁸Arg^{26,34}Lys³⁹-(Glut-ADod)-GLP-1(7-39); Val⁸Asp³⁵Arg^{26,34}Lys³⁸-(Glut-ADod)-GLP-1(7-36); Val⁸Asp³⁵Arg^{26,34}Lys³⁸-(Glut-ADod)-GLP-1(7-36); Val⁸Asp³⁵Arg^{26,34}Lys³⁷-(Glut-ADod)-GLP-1(7-37); Val⁸Asp³⁷Arg^{26,34}Lys³⁸-(Glut-ADod)-GLP-1(7-36)amide; Val⁸Asp³⁵Arg^{26,34}Lys³⁷-(Glut-ADod)-GLP-1(7-37); Val⁸Asp³⁷Arg^{26,34}Lys³⁸-(Glut-ADod)-GLP-1(7-38); Val⁸Asp³⁵Arg^{26,34}Lys³⁹-(Glut-ADod)-GLP-1(7-37); Val⁸Asp³⁷Arg^{26,34}Lys³⁸-(Glut-ADod)-GLP-1(7-38); Val⁸Asp³⁵Arg^{26,34}Lys³⁹-(Glut-ADod)-GLP-1(7-39);
- Ser^aGlu³⁵Arg^{26,34}Lys³⁶-(Glut-ADod)-GLP-1(7-36); Ser^aGlu³⁵Arg^{26,34}Lys³⁶-(Glut-ADod)-GLP-1(7-36); Ser^aGlu³⁵Arg^{26,34}Lys³⁸-(Glut-ADod)-GLP-1(7-37); Ser^aGlu³⁷Arg^{26,34}Lys³⁸-(Glut-ADod)-GLP-1(7-38); Ser^aGlu³⁸Arg^{26,34}Lys³⁹-(Glut-ADod)-GLP-1(7-39); Ser^aGlu³⁵Arg^{26,34}Lys³⁸-(Glut-ADod)-GLP-1(7-36); Ser^aGlu³⁵Arg^{26,34}Lys³⁸-(Glut-ADod)-GLP-1(7-36); Ser^aGlu³⁵Arg^{26,34}Lys³⁸-(Glut-ADod)-GLP-1(7-37); Ser^aGlu³⁵Arg^{26,34}Lys³⁸-(Glut-ADod)-GLP-1(7-36); Ser^aGlu³⁶Arg^{26,34}Lys³⁸-(Glut-ADod)-GLP-1(7-37); Ser^aGlu³⁷Arg^{26,34}Lys³⁸-(Glut-ADod)-GLP-1(7-37); Ser^aGlu³⁸Arg^{26,34}Lys³⁹-(Glut-ADod)-GLP-1(7-37); Ser^aGlu³⁸Arg^{26,34}Lys³⁸-(Glut-ADod)-GLP-1(7-39);
- Ser⁸Asp³⁵Arg^{26,34}Lys³⁶-(Glut-ADod)-GLP-1(7-36);
 Ser⁸Asp³⁵Arg^{26,34}Lys³⁸-(Glut-ADod)-GLP-1(7-36);

 Ser⁸Asp³⁵Arg^{26,34}Lys³⁶-(Glut-ADod)-GLP-1(7-37);
 Ser⁸Asp³⁷Arg^{26,34}Lys³⁸-(Glut-ADod)-GLP-1(7-37);

 Ser⁸Asp³⁵Arg^{26,34}Lys³⁸-(Glut-ADod)-GLP-1(7-37);
 Ser⁸Asp³⁵Arg^{26,34}Lys³⁸-(Glut-ADod)-GLP-1(7-39);

 Ser⁸Asp³⁵Arg^{26,34}Lys³⁸-(Glut-ADod)-GLP-1(7-39);
 Ser⁸Asp³⁵Arg^{26,34}Lys³⁸-(Glut-ADod)-GLP-1(7-36);

 ADod)-GLP-1(7-36);
 Ser⁸Asp³⁵Arg^{26,34}Lys³⁶-(Glut-ADod)-GLP-1(7-36)amide;
- GLP-1(7-38); Thr⁸Glu³⁸Arg^{26,34}Lys³⁹-(Glut-ADod)-GLP-1(7-39); Thr⁸Glu³⁵Arg^{26,34}Lys³⁹-(Glut-25 ADod)-GLP-1(7-36); Thr⁸Glu³⁵Arg^{26,34}Lys³⁶-(Glut-ADod)-GLP-1(7-36)amide; Thr⁸Glu³⁸Arg^{26,34}Lys³⁷-(Glut-ADod)-GLP-1(7-37); Thr⁸Glu³⁷Arg^{26,34}Lys³⁸-(Glut-ADod)-GLP-1(7-38); Thr⁸Glu³⁸Arg^{26,34}Lys³⁹-(Glut-ADod)-GLP-1(7-39); Thr⁸Asp³⁵Arg^{26,34}Lys³⁶-(Glut-ADod)-GLP-1(7-36); Thr⁸Asp³⁵Arg^{26,34}Lys³⁸-(Glut-ADod)-GLP-1(7-36)amide; Thr⁸Asp³⁶Arg^{26,34}Lys³⁷-(Glut-ADod)-GLP-1(7-37); Thr⁸Asp³⁷Arg^{26,34}Lys³⁸-(Glut-ADod)-

GLP-1(7-38); Thr⁸Asp³⁸Arg^{28,34}Lys³⁹-(Glut-ADod)-GLP-1(7-39); Thr⁸Asp³⁵Arg^{28,34}Lys³⁸-(Glut-

Thr8Asp36Arg26.34Lys37-(Glut-ADod)-GLP-1(7-37); Thr8Asp37Arg26.34Lys38-(Glut-ADod)-GLP-1(7-

Thr⁸Asp³⁵Arg^{26,34}Lys³⁶-(Glut-ADod)-GLP-1(7-36)amide;

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ADod)-GLP-1(7-36);

38); Thr⁸Asp³⁸Arg^{26,34}Lys³⁹-(Glut-ADod)-GLP-1(7-39);

- 30 (Glut-ADod)-GLP-1(7-38); Val⁸Asp¹⁷Arg^{26,34}Lys²³-(Glut-ADod)-GLP-1(7-38); Arg^{26,34}Lys²⁷-(Glut-ADod)-GLP-1(7-36); Arg^{26,34}Lys²⁷-(Glut-ADod)-GLP-1(7-37); Val⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glut-ADod)-GLP-1(7-36);
 Val⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glut-ADod)-GLP-1(7-36);
 Val⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glut-ADod)-GLP-1(7-36);
 Val⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glut-ADod)-GLP-1(7-36);
 Val⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glut-ADod)-GLP-1(7-36);
- 25
 Arg^{26,34}Lys²³-(Glut-ADod)-GLP-1(7-36);
 Arg^{26,34}Lys²³-(Glut-ADod)-GLP-1(7-36)amide;

 25
 Arg^{26,34}Lys²³-(Glut-ADod)-GLP-1(7-36);
 Arg^{26,34}Lys²³-(Glut-ADod)-GLP-1(7-36)amide;

 26
 Arg^{26,34}Lys²³-(Glut-ADod)-GLP-1(7-37);
 Arg^{26,34}Lys²³-(Glut-ADod)-GLP-1(7-38);

 27
 Val⁸Asp¹⁹Arg^{26,34}Lys²³-(Glut-ADod)-GLP-1(7-36);
 Val⁸Asp¹⁷Arg^{26,34}Lys²³-(Glut-ADod)-GLP-1(7-38);

 28
 Val⁸Asp¹⁹Arg^{26,34}Lys²³-(Glut-ADod)-GLP-1(7-36);
 Val⁸Asp¹⁷Arg^{26,34}Lys²³-(Glut-ADod)-GLP-1(7-36);

 29
 Val⁸Asp¹⁹Arg^{28,34}Lys²³-(Glut-ADod)-GLP-1(7-36);
 Val⁸Asp¹⁷Arg^{26,34}Lys²³-(Glut-ADod)-GLP-1(7-36);

 29
 Val⁸Asp¹⁹Arg^{28,34}Lys²³-(Glut-ADod)-GLP-1(7-36);
 Val⁸Asp¹⁷Arg^{26,34}Lys²³-(Glut-ADod)-GLP-1(7-37);

 20
 Val⁸Asp¹⁹Arg^{28,34}Lys²³-(Glut-ADod)-GLP-1(7-37);
 Val⁸Asp¹⁹Arg^{28,34}Lys²³-(Glut-ADod)-GLP-1(7-37);
- Arg^{28,34}Lys¹⁸-(Glut-ADod)-GLP-1(7-36);
 Arg^{26,34}Lys¹⁸-(Glut-ADod)-GLP-1(7-36)amide;

 20
 Arg^{26,34}Lys¹⁸-(Glut-ADod)-GLP-1(7-37);
 Arg^{26,34}Lys¹⁸-(Glut-ADod)-GLP-1(7-38);

 20
 Arg^{26,34}Lys¹⁸-(Glut-ADod)-GLP-1(7-37);
 Arg^{26,34}Lys¹⁸-(Glut-ADod)-GLP-1(7-38);

 20
 Arg^{26,34}Lys¹⁸-(Glut-ADod)-GLP-1(7-37);
 Arg^{26,34}Lys¹⁸-(Glut-ADod)-GLP-1(7-38);

 20
 Arg^{26,34}Lys¹⁸-(Glut-ADod)-GLP-1(7-36);
 Arg^{26,34}Lys¹⁸-(Glut-ADod)-GLP-1(7-38);

 20
 Arg^{26,34}Lys¹⁸-(Glut-ADod)-GLP-1(7-36);
 Arg^{26,34}Lys¹⁸-(Glut-ADod)-GLP-1(7-38);

 20
 Arg^{26,34}Lys¹⁸-(Glut-ADod)-GLP-1(7-37);
 Val⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glut-ADod)-GLP-1(7-37);

 21
 Clut-ADod)-GLP-1(7-38);
 Val⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Glut-ADod)-GLP-1(7-38);
- 36); Gly⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glut-ADod)-GLP-1(7-36)amide; Gly⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Glut-ADod)-GLP-1(7-37); Gly⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glut-ADod)-GLP-1(7-38); Gly⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Glut-ADod)-GLP-1(7-38); Arg^{26,34}Lys¹⁸-(Glut-ADod)-GLP-1(7-36); Arg^{26,34}Lys¹⁸-(Glut-ADod)-GLP-1(7-36)amide;
- (Glut-ADod)-GLP-1(7-38); Gly⁸Asp¹⁷Arg^{28,34}Lys²³-(Glut-ADod)-GLP-1(7-38);

 Arg^{26,34}Lys²⁷-(Glut-ADod)-GLP-1(7-36);

 Arg^{26,34}Lys²⁷-(Glut-ADod)-GLP-1(7-37);

 Arg^{26,34}Lys²⁷-(Glut-ADod)-GLP-1(7-37);

 Arg^{26,34}Lys²⁷-(Glut-ADod)-GLP-1(7-37);

 Arg^{26,34}Lys²⁷-(Glut-ADod)-GLP-1(7-37);

 Arg^{26,34}Lys²⁷-(Glut-ADod)-GLP-1(7-37);

 Gly⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glut-ADod)-GLP-1(7-36);

 Gly⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glut-ADod)-GLP-1(7-36);
- (Glut-ADod)-GLP-1(7-38); Gly⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Glut-ADod)-GLP-1(7-38);
 Arg^{28,34}Lys²³-(Glut-ADod)-GLP-1(7-36);
 Arg^{28,34}Lys²³-(Glut-ADod)-GLP-1(7-36);
 Arg^{28,34}Lys²³-(Glut-ADod)-GLP-1(7-37);
 Arg^{28,34}Lys²³-(Glut-ADod)-GLP-1(7-38);
 Gly⁸Asp¹⁹Arg^{26,34}Lys²³-(Glut-ADod)-GLP-1(7-36);
 Gly⁸Asp¹⁹Arg^{26,34}Lys²³-(Glut-ADod)-GLP-1(7-36);
 Gly⁸Asp¹⁹Arg^{26,34}Lys²³-(Glut-ADod)-GLP-1(7-36);
 Gly⁸Asp¹⁹Arg^{26,34}Lys²³-(Glut-ADod)-GLP-1(7-36);
 Gly⁸Asp¹⁹Arg^{26,34}Lys²³-(Glut-ADod)-GLP-1(7-36);
 Gly⁸Asp¹⁹Arg^{26,34}Lys²³-(Glut-ADod)-GLP-1(7-36);
- Arg^{26,34}Lys¹⁸-(Glut-ADod)-GLP-1(7-36);
 Arg^{26,34}Lys¹⁸-(Glut-ADod)-GLP-1(7-36)amide;

 Arg^{26,34}Lys¹⁸-(Glut-ADod)-GLP-1(7-37);
 Arg^{26,34}Lys¹⁸-(Glut-ADod)-GLP-1(7-38);

 Gly⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glut-ADod)-GLP-1(7-36);
 Gly⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Glut-ADod)-GLP-1(7-38);

 Gly⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glut-ADod)-GLP-1(7-36);
 Gly⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Glut-ADod)-GLP-1(7-36);

 Gly⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glut-ADod)-GLP-1(7-36)amide;
 Gly⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Glut-ADod)-GLP-1(7-36)amide;

 5
 GLP-1(7-36)amide;
 Gly⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glut-ADod)-GLP-1(7-37);

GLP-1(7-36)amide; Thr⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glut-ADod)-GLP-1(7-37); Thr⁸Asp¹⁹Arg^{26,34}Lys¹⁸-25 (Glut-ADod)-GLP-1(7-38); Thr⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Glut-ADod)-GLP-1(7-38); Arg^{26,34}Lys²³-(Glut-ADod)-GLP-1(7-36)amide; Arg^{26,34}Lys²³-(Glut-ADod)-GLP-1(7-36); Arg^{26,34}Lys²³-(Glut-ADod)-GLP-1(7-38); Arg^{26,34}Lys²³-(Glut-ADod)-GLP-1(7-37); Thr⁸Asp¹⁹Arg^{26,34}Lys²³-(Glut-ADod)-GLP-1(7-36); Thr⁸Asp¹⁷Arg^{26,34}Lys²³-(Glut-ADod)-GLP-1(7-36); Thr⁸Asp¹⁹Arg^{26,34}Lys²³-(Glut-ADod)-GLP-1(7-36)amide; Thr⁸Asp¹⁷Arg^{26,34}Lys²³-(Glut-ADod)-30 GLP-1(7-36)amide; Thr⁸Asp¹⁹Arg^{26,34}Lys²³-(Glut-ADod)-GLP-1(7-37); Thr⁸Asp¹⁹Arg^{26,34}Lys²³-(Glut-ADod)-GLP-1(7-38); Thr⁸Asp¹⁷Arg^{26,34}Lys²³-(Glut-ADod)-GLP-1(7-38); Arg^{26,34}Lys²⁷-(Glut-ADod)-GLP-1(7-36)amide; Arg^{26,34}Lys²⁷-(Glut-ADod)-GLP-1(7-36); Arg^{26,34}Lys²⁷-(Glut-ADod)-GLP-1(7-38); Arg^{26,34}Lys²⁷-(Glut-ADod)-GLP-1(7-37);

(Glut-ADod)-GLP-1(7-38); Ser⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Glut-ADod)-GLP-1(7-38);
 Arg^{26,34}Lys²⁷-(Glut-ADod)-GLP-1(7-36); Arg^{26,34}Lys²⁷-(Glut-ADod)-GLP-1(7-36)amide;
 Arg^{28,34}Lys²⁷-(Glut-ADod)-GLP-1(7-37); Arg^{26,34}Lys²⁷-(Glut-ADod)-GLP-1(7-38);
 Ser⁸Asp¹⁹Arg^{28,34}Lys²⁷-(Glut-ADod)-GLP-1(7-36); Ser⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Glut-ADod)-GLP-1(7-36);
 Ser⁸Asp¹⁹Arg^{28,34}Lys²⁷-(Glut-ADod)-GLP-1(7-36)amide; Ser⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Glut-ADod)-GLP-1(7-36)amide; Ser⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glut-ADod)-GLP-1(7-36)amide; Ser⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glut-ADod)-GLP-1(7-37); Ser⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glut-ADod)-GLP-1(7-38);
 (Glut-ADod)-GLP-1(7-38); Ser⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Glut-ADod)-GLP-1(7-38);

Thr⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glut-ADod)-GLP-1(7-36); Thr⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Glut-ADod)-GLP-1(7-36); Thr⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glut-ADod)-GLP-1(7-36)amide; Thr⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Glut-ADod)-

Arg^{26,34}Lys¹⁸-(Glut-ADod)-GLP-1(7-36);

Arg^{26,34}Lys¹⁸-(Glut-ADod)-GLP-1(7-37);

 Arg^{26,34}Lys²³-(Glut-ADod)-GLP-1(7-36);
 Arg^{26,34}Lys²³-(Glut-ADod)-GLP-1(7-36)amide;

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 Arg^{26,34}Lys²³-(Glut-ADod)-GLP-1(7-37);
 Arg^{26,34}Lys²³-(Glut-ADod)-GLP-1(7-38);

 Ser⁸Asp¹⁹Arg^{26,34}Lys²³-(Glut-ADod)-GLP-1(7-36);
 Ser⁸Asp¹⁷Arg^{26,34}Lys²³-(Glut-ADod)-GLP-1(7-38);

 Ser⁸Asp¹⁹Arg^{26,34}Lys²³-(Glut-ADod)-GLP-1(7-36);
 Ser⁸Asp¹⁷Arg^{26,34}Lys²³-(Glut-ADod)-GLP-1(7-36);

 GLP-1(7-36)amide;
 Ser⁸Asp¹⁹Arg^{26,34}Lys²³-(Glut-ADod)-GLP-1(7-36)amide;

 Ser⁸Asp¹⁹Arg^{26,34}Lys²³-(Glut-ADod)-GLP-1(7-36)amide;
 Ser⁸Asp¹⁹Arg^{26,34}Lys²³-(Glut-ADod)-GLP-1(7-37);

 Ser⁸Asp¹⁹Arg^{26,34}Lys²³-(Glut-ADod)-GLP-1(7-37);
 Ser⁸Asp¹⁹Arg^{26,34}Lys²³-(Glut-ADod)-GLP-1(7-37);

(Glut-ADod)-GLP-1(7-38); Ser⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Glut-ADod)-GLP-1(7-38);

- Arg^{26,34}Lys¹⁸-(Glut-ADod)-GLP-1(7-36);
 Arg^{26,34}Lys¹⁸-(Glut-ADod)-GLP-1(7-36)amide;

 Arg^{26,34}Lys¹⁸-(Glut-ADod)-GLP-1(7-37);
 Arg^{26,34}Lys¹⁸-(Glut-ADod)-GLP-1(7-38);

 5
 Ser⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glut-ADod)-GLP-1(7-36);
 Ser⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Glut-ADod)-GLP-1(7-38);

 5
 Ser⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glut-ADod)-GLP-1(7-36);
 Ser⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Glut-ADod)-GLP-1(7-36);

 5
 Ser⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glut-ADod)-GLP-1(7-36);
 Ser⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Glut-ADod)-GLP-1(7-36);

 5
 Ser⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glut-ADod)-GLP-1(7-36);
 Ser⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Glut-ADod)-GLP-1(7-36);

 6
 Lys¹⁸-(Glut-ADod)-GLP-1(7-36)amide;
 Ser⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glut-ADod)-GLP-1(7-37);

 6
 LP-1(7-36)amide;
 Ser⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glut-ADod)-GLP-1(7-37);
- GLP-1(7-36)amide; Val⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glut-ADod)-GLP-1(7-37); Val⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glut-ADod)-GLP-1(7-38); Val⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Glut-ADod)-GLP-1(7-38);

Arg^{26,34}Lys¹⁸-(Glut-ADod)-GLP-1(7-36)amide;

Arg^{26,34}Lys¹⁸-(Glut-ADod)-GLP-1(7-38);

36); Thr[®]Asp¹⁹Arg^{26,34}Lys²⁷-(Glut-ADod)-GLP-1(7-36)amide; Thr[®]Asp¹⁷Arg^{26,34}Lys²⁷-(Glut-ADod)-GLP-1(7-36)amide; Thr⁸Asp¹⁸Arg^{26,34}Lys²⁷-(Glut-ADod)-GLP-1(7-37); Thr⁸Asp¹⁹Arg^{26,34}Lys²⁷-

Arg²⁶Lys³⁴-(Glut-ATet)-GLP-1(7-36); Arg³⁴Lys²⁶-(Glut-ATet)-GLP-1(7-36); Arg^{26,34}Lys³⁶-(Glut-

ATet)-GLP-1(7-36); Arg²⁶Lys³⁴-(Glut-ATet)-GLP-1(7-36)amide; Arg³⁴ Lys²⁶-(Glut-ATet)-GLP-1(7-36)amide; Arg^{26,34}Lys³⁶-(Glut-ATet)-GLP-1(7-36)amide; Arg²⁶ Lys³⁴-(Glut-ATet)-GLP-1(7-37); Arg³⁴Lys²⁶-(Glut-ATet)-GLP-1(7-37); Arg^{26,34}Lys³⁶-(Glut-ATet)-GLP-1(7-37); Arg²⁶Lys³⁴-

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(Glut-ATet)-GLP-1(7-38); Arg³⁴Lys²⁶-(Glut-ATet)-GLP-1(7-38); Arg^{28,34}Lys³⁸-(Glut-ATet)-GLP-1(7-38); Arg²⁶Lys³⁴-(Glut-ATet)-GLP-1(7-39); Arg³⁴Lys²⁶-(Glut-ATet)-GLP-1(7-39); Arg^{26,34}Lys³⁹-(Glut-ATet)-GLP-1(7-39); Gly⁸Arg²⁶Lys³⁴-(Glut-ATet)-GLP-1(7-36);

Gly⁸Arg³⁴Lys²⁶-(Glut-ATet)-GLP-1(7-36): Gly⁸Arg²⁶Lys³⁴-(Glut-ATet)-GLP-1(7-36)amide; Gly⁸Arg^{26,34}Lys³⁶-(Glut-ATet)-GLP-1(7-Gly⁸Arg²⁵Lys³⁴-(Glut-ATet)-GLP-1(7-38); Gly⁸Arg^{26,34}Lys³⁸-(Glut-ATet)-GLP-1(7-38); Gly⁸Arg³⁴Lys²⁶-(Glut-ATet)-GLP-1(7-39);

Gly⁸Arg^{26,34}Lys³⁶-(Glut-ATet)-GLP-1(7-36); 36)amide; Gly8Arg26Lys34-(Glut-ATet)-GLP-1(7-37); Gly8Arg34Lys26-(Glut-ATet)-GLP-1(7-37); Gly⁸Arg³⁴Lys²⁶-(Glut-ATet)-GLP-1(7-38) :

(Glut-ADod)-GLP-1(7-38); Thr⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Glut-ADod)-GLP-1(7-38);

Gly⁸Arg³⁴Lys²⁶-(Glut-ATet)-GLP-1(7-36)amide; Gly⁸Arg^{26,34}Lys³⁶-(Glut-ATet)-GLP-1(7-37):

Val⁸Arg^{26,34}Lys³⁶-(Glut-ATet)-GLP-1(7-37);

Val[®]Arg³⁴Lys²⁶-(Glut-ATet)-GLP-1(7-38)

Val⁸Arg²⁶Lys³⁴-(Glut-ATet)-GLP-1(7-39);

Val⁸Arg^{26,34}Lys³⁹-(Glut-ATet)-GLP-1(7-39); Ser⁸Arg²⁶Lys³⁴-(Glut-ATet)-GLP-1(7-36);

Ser⁸Arg^{26,34}Lys³⁸-(Glut-ATet)-GLP-1(7-36);

Ser⁸Arg^{26,34}Lys³⁶-(Glut-ATet)-GLP-1(7-37);

Ser⁸Ara³⁴Lvs²⁶-(Glut-ATet)-GLP-1(7-38)

Ser⁸Arg³⁴Lys²⁶-(Glut-ATet)-GLP-1(7-36)amide:

Val⁸Arg³⁴Lys²⁶-(Glut-ATet)-GLP-1(7-36);

:

Gly⁸Arg²⁶Lys³⁴-(Glut-ATet)-GLP-1(7-39); Gly⁸Arg^{26,34}Lys³⁹-(Glut-ATet)-GLP-1(7-39); Val⁸Arg²⁶Lys³⁴-(Glut-ATet)-GLP-1(7-36);

Val⁸Arg²⁶Lys³⁴-(Glut-ATet)-GLP-1(7-36)amide;

Val[®]Arg^{26,34}Lys³⁶-(Glut-ATet)-GLP-1(7-36); Val[®]Arg³⁴Lys²⁶-(Glut-ATet)-GLP-1(7-36)amide:

36)amide; Val⁸Arg²⁸Lys³⁴-(Glut-ATet)-GLP-1(7-37); Val⁸Arg³⁴Lys²⁸-(Glut-ATet)-GLP-1(7-37);

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Ser⁸Arg³⁴Lys²⁶-(Glut-ATet)-GLP-1(7-36); Ser⁸Arg²⁶Lys³⁴-(Glut-ATet)-GLP-1(7-36)amide; Ser⁸Arg^{28,34}Lys³⁶-(Glut-ATet)-GLP-1(7-36)amide; Ser⁸Arg²⁶Lys³⁴-(Glut-ATet)-GLP-1(7-37); Ser⁸Arg³⁴Lys²⁶-(Glut-ATet)-GLP-1(7-37); Ser⁸Arg²⁶Lys³⁴-(Glut-ATet)-GLP-1(7-38); Ser⁸Arg^{26,34}Lys³⁸-(Glut-ATet)-GLP-1(7-38);

Val⁸Arg^{26,34}Lys³⁶-(Glut-ATet)-GLP-1(7-

Val⁸Arg²⁶Lys³⁴-(Glut-ATet)-GLP-1(7-38);

Val⁸Arg³⁴Lvs²⁶-(Glut-ATet)-GLP-1(7-39);

Val⁸Arg^{26,34}Lys³⁸-(Glut-ATet)-GLP-1(7-38);

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Val⁸Asp³⁵Arg^{26,34}Lys³⁶-(Glut-ATet)-GLP-1(7-Val⁸Asp³⁵Arg^{26,34}Lys³⁶-(Glut-ATet)-GLP-1(7-36); 36)amide; Val⁸Asp³⁶Arg^{26,34}Lys³⁷-(Glut-ATet)-GLP-1(7-37); Val⁸Asp³⁷Arg^{26,34}Lys³⁸-(Glut-ATet)-30 Val⁸Asp³⁸Arg^{26,34}Lys³⁹-(Glut-ATet)-GLP-1(7-39); Val⁸Asp³⁵Arg^{26,34}Lys³⁶-(Glut-GLP-1(7-38); Val⁸Asp³⁵Arg^{26,34}Lys³⁶-(Glut-ATet)-GLP-1(7-36)amide; ATet)-GLP-1(7-36); Val⁸Asp³⁸Arg^{26,34}Lys³⁷-(Glut-ATet)-GLP-1(7-37); Val⁸Asp³⁷Arg^{26,34}Lys³⁸-(Glut-ATet)-GLP-1(7-38); Val⁸Asp³⁸Arg^{28,34}Lys³⁹-(Glut-ATet)-GLP-1(7-39);

- 36)amide; Val⁸Glu³⁸Arg^{26,34}Lys³⁷-(Glut-ATet)-GLP-1(7-37); Val⁸Glu³⁷Arg^{26,34}Lys³⁸-(Glut-ATet)-GLP-1(7-38); Val⁸Glu³⁸Arg^{26,34}Lys³⁹-(Glut-ATet)-GLP-1(7-39); Val⁸Glu³⁵Arg^{26,34}Lys³⁸-(Glut-ATet)-25 GLP-1(7-36); Val⁸Glu³⁵Arg^{26,34}Lys³⁶-(Glut-ATet)-GLP-1(7-36)amide; Val⁸Glu³⁶Arg^{26,34}Lys³⁷-(Glut-ATet)-GLP-1(7-37); Val⁸Glu³⁷Arg^{26,34}Lys³⁸-(Glut-ATet)-GLP-1(7-38); Val⁸Glu³⁸Arg^{26,34}Lys³⁹-(Glut-ATet)-GLP-1(7-39);
- Gly⁸Asp³⁵Arg^{28,34}Lys³⁶-(Glut-ATet)-GLP-1(7-36); Gly⁸Asp³⁵Arg^{28,34}Lys³⁶-(Glut-ATet)-GLP-1(7-36)amide; Gly⁸Asp³⁶Arg^{26,34}Lys³⁷-(Glut-ATet)-GLP-1(7-37); Gly⁸Asp³⁷Arg^{26,34}Lys³⁸-(Glut-ATet)-Gly⁸Asp³⁸Arg^{26,34}Lys³⁹-(Glut-ATet)-GLP-1(7-39); Gly⁸Asp³⁵Arg^{26,34}Lys³⁸-(Glut-GLP-1(7-38); Gly⁸Asp³⁵Arg^{26,34}Lys³⁶-(Glut-ATet)-GLP-1(7-36)amide; ATet)-GLP-1(7-36); 20 Gly⁸Asp³⁶Arg^{26,34}Lys³⁷-(Glut-ATet)-GLP-1(7-37); Gly⁸Asp³⁷Arg^{26,34}Lys³⁸-(Glut-ATet)-GLP-1(7-38); Glv⁸Asp³⁸Arg^{26,34}Lys³⁹-(Glut-ATet)-GLP-1(7-39);
- Gly⁸Glu³⁵Arg^{26,34}Lys³⁶-(Glut-ATet)-GLP-1(7-Glv⁸Glu³⁵Arg^{26,34}Lys³⁸-(Glut-ATet)-GLP-1(7-36); 36)amide; Gly8Glu36Arg28.34Lys37-(Glut-ATet)-GLP-1(7-37); Gly8Glu37Arg28.34Lys38-(Glut-ATet)-GLP-1(7-38); Gly⁸Glu³⁸Arg^{26,34}Lys³⁹-(Glut-ATet)-GLP-1(7-39); Gly⁸Glu³⁵Arg^{26,34}Lys³⁸-(Glut-ATet)-GLP-1(7-36); Gly⁸Glu³⁵Arg^{26,34}Lys³⁵-(Glut-ATet)-GLP-1(7-36)amide; Gly⁸Glu³⁶Arg^{26,34}Lys³⁷-(Glut-ATet)-GLP-1(7-37); Gly⁸Glu³⁷Arg^{26,34}Lys³⁸-(Glut-ATet)-GLP-1(7-38); Gly⁸Glu³⁸Arg^{26,34}Lys³⁹-(Glut-15 ATet)-GLP-1(7-39);

	Ser ^s Arg ^{25,34} Lys ³⁹ -(Glut-ATet)-GLP-1(7-39);	
	Thr ^s Arg ²⁶ Lys ³⁴ -(Glut-ATet)-GLP-1(7-36);	Thr ^a Arg ³⁴ Lys ²⁵ -(Glut-ATet)-GLP-1(7-36);
	Thr ^a Arg ^{26,34} Lys ³⁸ -(Glut-ATet)-GLP-1(7-36);	Thr ^a Arg ²⁶ Lys ³⁴ -(Glut-ATet)-GLP-1(7-36)amide;
5	Thr ^a Arg ³⁴ Lys ²⁹ -(Glut-ATet)-GLP-1(7-36)amide;	Thr ^a Arg ^{26,34} Lys ³⁸ -(Glut-ATet)-GLP-1(7-
	36)amide; Thr ^a Arg ²⁶ Lys ³⁴ -(Glut-ATet)-GLP-1(7	-37); Thr ^a Arg ^{s4} Lys ²⁸ -(Glut-ATet)-GLP-1(7-37);
	Thr ^s Arg ^{26,34} Lys ³⁶ -(Glut-ATet)-GLP-1(7-37);	Thr ⁸ Arg ²⁶ Lys ³⁴ -(Glut-ATet)-GLP-1(7-38);
	Thr ^s Arg ³⁴ Lys ²⁵ -(Glut-ATet)-GLP-1(7-38) ;	Thr ⁸ Arg ^{26.34} Lys ³⁸ -(Glut-ATet)-GLP-1(7-38);
	Thr ^a Arg ²⁶ Lys ³⁴ -(Glut-ATet)-GLP-1(7-39);	Thr ^a Arg ³⁴ Lys ²⁶ -(Glut-ATet)-GLP-1(7-39);

Thr^aArg^{26,34}Lys³⁹-(Glut-ATet)-GLP-1(7-39);

Vai⁸Glu³⁵Arg^{28,34}Lys³⁶-(Glut-ATet)-GLP-1(7-36);

63 Ser⁸Arg³⁴Lys²⁸-(Glut-ATet)-GLP-1(7-39); . Ser^aArg²⁶Lys³⁴-(Glut-ATet)-GLP-1(7-39); P-1(7-36);

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Val⁸Glu³⁵Arg^{26,34}Lys³⁶-(Glut-ATet)-GLP-1(7-

Gly⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glut-ATet)-GLP-1(7-36); Gly⁸Asp¹⁷Arg^{28,34}Lys¹⁸-(Glut-ATet)-GLP-1(7-36); Gly⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glut-ATet)-GLP-1(7-36)amide; Gly⁸Asp¹⁷Arg^{28,34}Lys¹⁸-(Glut-ATet)-GLP-1(7-36)amide; Gly⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glut-ATet)-GLP-1(7-37); Gly⁸Asp¹⁹Arg^{28,34}Lys¹⁸-(Glut-30 ATet)-GLP-1(7-38); Gly⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Glut-ATet)-GLP-1(7-38); Arg^{26,34}Lys²³-(Glut-ATet)-GLP-1(7-36); Arg^{26,34}Lys²³-(Glut-ATet)-GLP-1(7-36)amide; Arg^{28,34}Lys²³-(Glut-ATet)-GLP-1(7-37); Arg^{28,34}Lys²³-(Glut-ATet)-GLP-1(7-38);

Gly⁸Asp¹⁹Arg^{26,34}Lys²³-(Glut-ATet)-GLP-1(7-36); Gly⁸Asp¹⁷Arg^{26,34}Lys²³-(Glut-ATet)-GLP-1(7-36); Gly⁸Asp¹⁹Arg^{26,34}Lys²³-(Glut-ATet)-GLP-1(7-36)amide; Gly⁸Asp¹⁷Arg^{26,34}Lys²³-(Glut-ATet)-GLP-1(7-36)amide; Gly⁸Asp¹⁷Arg^{26,34}Lys³⁵-(Glut-ATet)-GLP-1(7-36)amide; Gly⁸Asp¹⁷Arg^{26,34}Lys³⁵-(Glut-ATet)-Gly⁸-1(7-36)amide; Gly⁸Asp¹⁷Arg^{26,34}Lys³⁵-(Glut-ATet)-1(7-36)amide; Gly⁸Asp¹⁷Arg^{26,34}Lys³⁵-(Glut-ATet)-1(7-36)amide; Gly⁸Asp¹⁷Arg^{26,34}Lys³⁵-(Glut-ATet)-1(7-36)amide; Gly⁸Asp¹⁷Arg^{26,34}Lys³⁵-(Glut-ATet)-1(7-36)amide; Gly⁸-1(7-36)amide; Gly⁸

 Thr⁸Asp³⁸Arg^{26,34}Lys³⁷-(Glut-ATet)-GLP-1(7-37); Thr⁸Asp³⁷Arg^{26,34}Lys³⁸-(Glut-ATet)-GLP-1(7-38);

 Thr⁸Asp³⁸Arg^{26,34}Lys³⁹-(Glut-ATet)-GLP-1(7-39);

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 Arg^{26,34}Lys¹⁸-(Glut-ATet)-GLP-1(7-36);

 Arg^{26,34}Lys¹⁸-(Glut-ATet)-GLP-1(7-36);
 Arg^{26,34}Lys¹⁸-(Glut-ATet)-GLP-1(7-36)amide;

 Arg^{26,34}Lys¹⁸-(Glut-ATet)-GLP-1(7-37);
 Arg^{26,34}Lys¹⁸-(Glut-ATet)-GLP-1(7-38);

 Gly⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glut-ATet)-GLP-1(7-36); Gly⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Glut-ATet)-GLP-1(7-36);

 Oh #Asp¹⁸Arg^{26,34}Lys¹⁸ (Clut-ATet)-GLP-1(7-36); Clu⁸Asp¹⁷Arg^{28,34}Lys¹⁸-(Glut-ATet)-GLP-1(7-36);

- Thr⁸Asp³⁵Arg^{28,34}Lys³⁶-(Glut-ATet)-GLP-1(7-36);
 Thr⁸Asp³⁵Arg^{28,34}Lys³⁶-(Glut-ATet)-GLP-1(7-36);

 20
 36)amide;
 Thr⁸Asp³⁶Arg^{26,34}Lys³⁷-(Glut-ATet)-GLP-1(7-37);

 21
 36)amide;
 Thr⁸Asp³⁶Arg^{26,34}Lys³⁷-(Glut-ATet)-GLP-1(7-37);

 22
 36)amide;
 Thr⁸Asp³⁶Arg^{26,34}Lys³⁷-(Glut-ATet)-GLP-1(7-37);

 23
 36)amide;
 Thr⁸Asp³⁶Arg^{26,34}Lys³⁷-(Glut-ATet)-GLP-1(7-39);

 24
 Thr⁸Asp³⁵Arg^{26,34}Lys³⁹-(Glut-ATet)-GLP-1(7-39);
 Thr⁸Asp³⁵Arg^{26,34}Lys³⁸-(Glut-ATet)-GLP-1(7-36)amide;

 25
 Thr⁸Asp³⁶Arg^{26,34}Lys³⁷-(Glut-ATet)-GLP-1(7-37);
 Thr⁸Asp³⁵Arg^{26,34}Lys³⁸-(Glut-ATet)-GLP-1(7-38);

 26
 Thr⁸Asp³⁶Arg^{26,34}Lys³⁷-(Glut-ATet)-GLP-1(7-37);
 Thr⁸Asp³⁶-(Glut-ATet)-GLP-1(7-38);
- 15 GLP-1(7-38); Thr⁸Glu³⁸Arg^{26,34}Lys³⁹-(Glut-ATet)-GLP-1(7-39); Thr⁸Glu³⁵Arg^{26,34}Lys³⁶-(Glut-ATet)-GLP-1(7-36); Thr⁸Glu³⁵Arg^{26,34}Lys³⁶-(Glut-ATet)-GLP-1(7-36)amide; Thr⁸Glu³⁸Arg^{26,34}Lys³⁷-(Glut-ATet)-GLP-1(7-37); Thr⁸Glu³⁷Arg^{26,34}Lys³⁸-(Glut-ATet)-GLP-1(7-38); Thr⁸Glu³⁸Arg^{26,34}Lys³⁹-(Glut-ATet)-GLP-1(7-39); Thr⁸Glu³⁸Arg^{26,34}Lys³⁹-(Glut-ATet)-GLP-1(7-39);

36)amide; Thr⁸Glu³⁶Arg^{26,34}Lys³⁷-(Glut-ATet)-GLP-1(7-37); Thr⁸Glu³⁷Arg^{26,34}Lys³⁸-(Glut-ATet)-

- 36)amide; Ser⁸Asp³⁶Arg^{26,34}Lys³⁷-(Glut-ATet)-GLP-1(7-37); Ser⁸Asp³⁷Arg^{26,34}Lys³⁸-(Glut-ATet)-GLP-1(7-38); Ser⁸Asp³⁸Arg^{26,34}Lys³⁹-(Glut-ATet)-GLP-1(7-39); Ser⁸Asp³⁵Arg^{26,34}Lys³⁸-(Glut-ATet)-GLP-1(7-36); Ser⁸Asp³⁶Arg^{26,34}Lys³⁷-(Glut-ATet)-GLP-1(7-37); Ser⁸Asp³⁷Arg^{26,34}Lys³⁸-(Glut-ATet)-GLP-1(7-38); Ser⁸Asp³⁸Arg^{26,34}Lys³⁹-(Glut-ATet)-GLP-1(7-39); Thr⁸Glu³⁵Arg^{26,34}Lys³⁸-(Glut-ATet)-GLP-1(7-36); Thr⁸Glu³⁵Arg³⁶-(Glut-ATet)-GLP-1(7-36); Thr⁸Glu³⁵Arg³⁶-(Glut-ATet)-GLP-1(7-36); Thr⁸Glu³⁵Arg³⁶-(Glut-ATet)-GLP-1(7-36); Thr⁸Glu³⁵-(Glu³⁵Arg³⁶-(Glut-ATet)-GLP-1(7-36); Thr⁸Glu³⁵-(Glu³⁵Arg³⁶-(Glu³⁵
- Ser⁸Glu³⁵Arg^{28,34}Lys³⁸-(Glut-ATet)-GLP-1(7-36);
 Ser⁸Glu³⁵Arg^{28,34}Lys³⁸-(Glut-ATet)-GLP-1(7-37);

 36)amide;
 Ser⁸Glu³⁶Arg^{28,34}Lys³⁷-(Glut-ATet)-GLP-1(7-37);
 Ser⁸Glu³⁷Arg^{28,34}Lys³⁸-(Glut-ATet)-GLP-1(7-39);

 GLP-1(7-38);
 Ser⁸Glu³⁸Arg^{28,34}Lys³⁹-(Glut-ATet)-GLP-1(7-39);
 Ser⁸Glu³⁵Arg^{28,34}Lys³⁸-(Glut-ATet)-GLP-1(7-36);

 ATet)-GLP-1(7-36);
 Ser⁸Glu³⁵Arg^{28,34}Lys³⁹-(Glut-ATet)-GLP-1(7-37);
 Ser⁸Glu³⁵Arg^{28,34}Lys³⁸-(Glut-ATet)-GLP-1(7-36);

 Ser⁸Glu³⁶Arg^{26,34}Lys³⁷-(Glut-ATet)-GLP-1(7-37);
 Ser⁸Glu³⁷Arg^{28,34}Lys³⁸-(Glut-ATet)-GLP-1(7-38);

 Ser⁸Glu³⁸Arg^{26,34}Lys³⁹-(Glut-ATet)-GLP-1(7-39);
 Ser⁸Glu³⁸Arg^{26,34}Lys³⁹-(Glut-ATet)-GLP-1(7-39);

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Ser⁸Asp³⁵Arg^{26,34}Lys³⁶-(Glut-ATet)-GLP-1(7-36);

5

Ser⁸Asp³⁵Arg^{26,34}Lys³⁶-(Glut-ATet)-GLP-1(7-

1(7-36)amide; Gly⁸Asp¹⁸Arg^{28,34}Lys²³-(Glut-ATet)-GLP-1(7-37); Gly⁸Asp¹⁹Arg^{26,34}Lys²³-(Glut-ATet)-GLP-1(7-38); Gly⁸Asp¹⁷Arg^{26,34}Lys²³-(Glut-ATet)-GLP-1(7-38);

 Arg^{26,34}Lys²⁷-(Glut-ATet)-GLP-1(7-36);
 Arg^{26,34}Lys²⁷-(Glut-ATet)-GLP-1(7-36)amide;

 Arg^{26,34}Lys²⁷-(Glut-ATet)-GLP-1(7-37);
 Arg^{26,34}Lys²⁷-(Glut-ATet)-GLP-1(7-38);

5 Gly⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glut-ATet)-GLP-1(7-36); Gly⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Glut-ATet)-GLP-1(7-36); Gly⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glut-ATet)-GLP-1(7-36)amide; Gly⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Glut-ATet)-GLP-1(7-36)amide; Gly⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glut-ATet)-GLP-1(7-37); Gly⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glut-ATet)-GLP-1(7-38); Gly⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Glut-ATet)-GLP-1(7-38);

 Arg^{26,34}Lys¹⁸-(Glut-ATet)-GLP-1(7-36);
 Arg^{26,34}Lys¹⁸-(Glut-ATet)-GLP-1(7-36)amide;

 10
 Arg^{26,34}Lys¹⁸-(Glut-ATet)-GLP-1(7-37);
 Arg^{26,34}Lys¹⁸-(Glut-ATet)-GLP-1(7-38);

 Val⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glut-ATet)-GLP-1(7-36);
 Val⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Glut-ATet)-GLP-1(7-36);

 Val⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glut-ATet)-GLP-1(7-36)amide;
 Val⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Glut-ATet)-GLP-1(7-36);

 Val⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glut-ATet)-GLP-1(7-36)amide;
 Val⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Glut-ATet)-GLP-1(7-36);

 1(7-36)amide,
 Val⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glut-ATet)-GLP-1(7-37);
 Val⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glut-ATet)-GLP-1(7-38);

 ATet)-GLP-1(7-38); Val⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Glut-ATet)-GLP-1(7-38);
 Val⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glut-ATet)-GLP-1(7-38);

Arg^{26,34}Lys²³-(Glut-ATet)-GLP-1(7-36); Arg^{26,34}Lys²³-(Glut-ATet)-GLP-1(7-36)amide; Arg^{26,34}Lys²³-(Glut-ATet)-GLP-1(7-37); Arg^{26,34}Lys²³-(Glut-ATet)-GLP-1(7-38); Val⁸Asp¹⁹Arg^{26,34}Lys²³-(Glut-ATet)-GLP-1(7-36); Val⁸Asp¹⁹Arg^{26,34}Lys²³-(Glut-ATet)-GLP-1(7-36); Val⁸Asp¹⁹Arg^{26,34}Lys²³-(Glut-ATet)-GLP-1(7-36); Val⁸Asp¹⁹Arg^{26,34}Lys²³-(Glut-ATet)-GLP-1(7-36); Val⁸Asp¹⁹Arg^{26,34}Lys²³-(Glut-ATet)-GLP-1(7-36); Val⁸Asp¹⁹Arg^{26,34}Lys²³-(Glut-ATet)-GLP-1(7-36); Val⁸Asp¹⁹Arg^{26,34}Lys²³-(Glut-ATet)-GLP-1(7-37); Val⁸Asp¹⁹Arg^{26,34}Lys²³-(Glut-ATet)-GLP-1(7-38); Val⁸Asp¹⁹Arg^{26,34}Lys²³-(Glut-ATet)-GLP-1(7-38); Val⁸Asp¹⁹Arg^{26,34}Lys²³-(Glut-ATet)-GLP-1(7-38); Val⁸Asp¹⁹Arg^{26,34}Lys²³-(Glut-ATet)-GLP-1(7-38); Val⁸Asp¹⁹Arg^{26,34}Lys²³-(Glut-ATet)-GLP-1(7-38); Val⁸Asp¹⁷Arg^{26,34}Lys²³-(Glut-ATet)-GLP-1(7-38); Val⁸As

 Arg^{26,34}Lys²⁷-(Glut-ATet)-GLP-1(7-36);
 Arg^{26,34}Lys²⁷-(Glut-ATet)-GLP-1(7-36)amide;

 Arg^{26,34}Lys²⁷-(Glut-ATet)-GLP-1(7-37);
 Arg^{26,34}Lys²⁷-(Glut-ATet)-GLP-1(7-38);

 Val⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glut-ATet)-GLP-1(7-36);
 Val⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Glut-ATet)-GLP-1(7-36);

 Val⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glut-ATet)-GLP-1(7-36);
 Val⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glut-ATet)-GLP-1(7-36);

 Val⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glut-ATet)-GLP-1(7-36)amide;
 Val⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Glut-ATet)-GLP-1(7-36);

 Val⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glut-ATet)-GLP-1(7-36)amide;
 Val⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glut-ATet)-GLP-1(7-36);

 Val⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glut-ATet)-GLP-1(7-36)amide;
 Val⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glut-ATet)-GLP-1(7-37);

ATet)-GLP-1(7-38); Val⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Glut-ATet)-GLP-1(7-38); Arg^{26,34}Lys¹⁸-(Glut-ATet)-GLP-1(7-36); Arg^{26,34}Lys¹⁸-(Glut-ATet)-GLP-1(7-37); Ser⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glut-ATet)-GLP-1(7-36); 36); Ser⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glut-ATet)-GLP-1(7-36)amide; Ser⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Glut-ATet)-GLP-1(7-36)amide; Ser⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Glut-ATet)-GLP-1(7-36)amide; Ser⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glut-ATet)-GLP-1(7-36)amide; Ser⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glut-ATet)-GLP-1(7-36)amide; Ser⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glut-ATet)-GLP-1(7-37); Ser⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glut-ATet)-GLP-1(7-38); (Glut-ATet)-GLP-1(7-38); Ser⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Glut-ATet)-GLP-1(7-38); Arg^{26,34}Lys²³-(Glut-ATet)-GLP-1(7-36); Arg^{26,34}Lys²³-(Glut-ATet)-GLP-1(7-36)amide;

Arg^{26,34}Lys²³-(Glut-ATet)-GLP-1(7-37);

Arg^{26,34}Lys²³-(Glut-ATet)-GLP-1(7-38);

Arg²⁶Lys³⁴-(Glut-AHex)-GLP-1(7-36); Arg³⁴Lys²⁶-(Glut-AHex)-GLP-1(7-36); Arg^{26,34}Lys³⁶-(Glut-30); Arg^{26,34}Lys³⁴-(Glut-AHex)-GLP-1(7-36)amide; Arg³⁴ Lys²⁶-(Glut-AHex)-GLP-1(7-36)amide; Arg^{26,34}Lys³⁸-(Glut-AHex)-GLP-1(7-36)amide; Arg³⁴Lys²⁸-(Glut-AHex)-GLP-1(7-37); Arg³⁴Lys²⁸-(Glut-AHex)-GLP-1(7-37); Arg^{26,34}Lys³⁸-(Glut-AHex)-GLP-1(7-37); Arg^{26,34}Lys³⁸-(Glut-AHex)-GLP-1(7-38); Arg^{28,34}Lys²⁸-(Glut-AHex)-GLP-1(7-38); Arg^{28,34}Lys³⁸-(Glut-AHex)-GLP-1(7-38); Arg³⁴Lys²⁸-(Glut-AHex)-GLP-1(7-38); Arg^{28,34}Lys³⁸-(Glut-AHex)-GLP-1(7-38); Arg³⁸-(Glut-AHex)-GLP-1(7-38); Arg³⁸-(Glut-AHe

 Arg^{28,34}Lys²⁷-(Glut-ATet)-GLP-1(7-37);
 Arg^{28,34}Lys²⁷-(Glut-ATet)-GLP-1(7-38);

 25
 Thr⁸Asp¹⁹Arg^{28,34}Lys²⁷-(Glut-ATet)-GLP-1(7-36); Thr⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Glut-ATet)-GLP-1(7-36);

 Thr⁸Asp¹⁹Arg^{28,34}Lys²⁷-(Glut-ATet)-GLP-1(7-36); Thr⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Glut-ATet)-GLP-1(7-36);

 Thr⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glut-ATet)-GLP-1(7-36);

 Thr⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glut-ATet)-GLP-1(7-36);

 Thr⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glut-ATet)-GLP-1(7-37);

 Thr⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glut-ATet)-GLP-1(7-37);

 Thr⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Glut-ATet)-GLP-1(7-38);

 Arg
 Lys
 (Club Artel)-OLI -1(1-37),
 Arg
 Lys
 (Club Artel)-OLI -1(1-30),

 Thr³Asp¹⁹Arg^{26,34}Lys²³-(Glut-ATet)-GLP-1(7-36);
 Thr³Asp¹⁷Arg^{26,34}Lys²³-(Glut-ATet)-GLP-1(7-36);
 Thr³Asp¹⁹Arg^{26,34}Lys²³-(Glut-ATet)-GLP-1(7-36);

 Thr³Asp¹⁹Arg^{26,34}Lys²³-(Glut-ATet)-GLP-1(7-36)amide;
 Thr³Asp¹⁹Arg^{26,34}Lys²³-(Glut-ATet)-GLP-1(7-37);
 Thr³Asp¹⁹Arg^{26,34}Lys²³-(Glut-ATet)-GLP-1(7-38);

 ATet)-GLP-1(7-38);
 Thr³Asp¹⁷Arg^{26,34}Lys²³-(Glut-ATet)-GLP-1(7-38);
 Arg^{26,34}Lys²⁷-(Glut-ATet)-GLP-1(7-36)amide;

- Thr⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glut-ATet)-GLP-1(7-36); Thr⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Glut-ATet)-GLP-1(7-36);

 Thr⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glut-ATet)-GLP-1(7-36)amide;

 Thr⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glut-ATet)-GLP-1(7-36)amide;

 Thr⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glut-ATet)-GLP-1(7-37);

 Thr⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glut-ATet)-GLP-1(7-37);

 Thr⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glut-ATet)-GLP-1(7-38);

 Aret^{26,34}Lys²³-(Glut-ATet)-GLP-1(7-36);

 Arg^{26,34}Lys²³-(Glut-ATet)-GLP-1(7-37);
- (Glut-ATet)-GLP-1(7-36); SerAsp^{**}Arg^{****}Lys^{**}-(Glut-ATet)-GLP-1(7-36);
 Arg^{28,34}Lys²⁷-(Glut-ATet)-GLP-1(7-36); Arg^{28,34}Lys²⁷-(Glut-ATet)-GLP-1(7-38);
 Ser⁸Asp¹⁹Arg^{28,34}Lys²⁷-(Glut-ATet)-GLP-1(7-36); Ser⁸Asp¹⁹Arg^{28,34}Lys²⁷-(Glut-ATet)-GLP-1(7-36); Ser⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glut-ATet)-GLP-1(7-36); Ser⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glut-ATet)-GLP-1(7-36); GLP-1(7-36)amide; Ser⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glut-ATet)-GLP-1(7-36)amide; Ser⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glut-ATet)-GLP-1(7-37); Ser⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glut-ATet)-GLP-1(7-38); Glut-ATet)-GLP-1(7-38); Ser⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Glut-ATet)-GLP-1(7-38); Ser⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glut-ATet)-GLP-1(7-37); Ser⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glut-ATet)-GLP-1(7-38); Ser⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Glut-ATet)-GLP-1(7-38); Ser⁸
- $Ser^{8}Asp^{19}Arg^{28,34}Lys^{23}-(Glut-ATet)-GLP-1(7-36); Ser^{8}Asp^{17}Arg^{28,34}Lys^{23}-(Glut-ATet)-GLP-1(7-36); Ser^{8}Asp^{19}Arg^{28,34}Lys^{23}-(Glut-ATet)-GLP-1(7-36)amide; Ser^{8}Asp^{19}Arg^{28,34}Lys^{23}-(Glut-ATet)-GLP-1(7-37); Ser^{8}Asp^{19}Arg^{26,34}Lys^{23}-(Glut-ATet)-GLP-1(7-37); Ser^{8}Asp^{19}Arg^{26,34}Lys^{23}-(Glut-ATet)-GLP-1(7-38); Ser^{8}Asp^{17}Arg^{28,34}Lys^{23}-(Glut-ATet)-GLP-1(7-38); Ser^{8}Asp^{17}Arg^{28,34}Lys^{23}-(Glut-ATet)-GLP-1(7-38);$

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Arg^{26,34}Lys¹⁸-(Glut-ATet)-GLP-1(7-36);

Arg^{26,34}Lys¹⁸-(Glut-ATet)-GLP-1(7-37);

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Arg^{28,34}Lys¹⁸-(Glut-ATet)-GLP-1(7-36)amide:

Arg^{26,34}Lys¹⁸-(Glut-ATet)-GLP-1(7-38);

15

Arg ^{26,34} Lys ³⁹ -(Giut-AHex)-GLP-1(7-39);			
Gly ^s Arg ²⁶ Lys ³⁴ -(Glut-AHex)-GLP-1(7-36);	Gly ^a Arg ³⁴ Lys ²⁶ -(Glut-AHex)-GLP-1(7-36);		
Gly ^s Arg ^{26,34} Lys ³⁶ -(Glut-AHex)-GLP-1(7-36);	Gly ^a Arg ²⁶ Lys ³⁴ -(Glut-AHex)-GLP-1(7-36)amide;		
Gly ⁸ Arg ³⁴ Lys ²⁶ -(Glut-AHex)-GLP-1(7-36)amide;	Gly ^s Arg ^{28,34} Lys ³⁶ -(Glut-AHex)-GLP-1(7-		
36) amide; Gly8Arg26Lys34-(Glut-AHex)-GLP-1(• •		
Gly ⁸ Arg ^{26,34} Lys ³⁸ -(Glut-AHex)-GLP-1(7-37);	Gly ^s Arg ²⁶ Lys ³⁴ -(Glut-AHex)-GLP-1(7-38);		
Gly ⁸ Arg ³⁴ Lys ²⁶ -(Glut-AHex)-GLP-1(7-38) ;	Gly ⁸ Arg ^{26,34} Lys ³⁸ -(Glut-AHex)-GLP-1(7-38);		
Gly ^a Arg ²⁶ Lys ³⁴ -(Glut-AHex)-GLP-1(7-39);	Gly ^s Arg ³⁴ Lys ²⁶ -(Glut-AHex)-GLP-1(7-39);		
Gly ^s Arg ^{26,34} Lys ³⁹ -(Glut-AHex)-GLP-1(7-39);			
Val ⁸ Arg ²⁶ Lys ³⁴ -(Glut-AHex)-GLP-1(7-36);	Val [®] Arg ³⁴ Lys ²⁸ -(Glut-AHex)-GLP-1(7-36);		
Val ^s Arg ^{26,34} Lys ³⁶ -(Glut-AHex)-GLP-1(7-36);	Val ⁸ Arg ²⁶ Lys ³⁴ -(Glut-AHex)-GLP-1(7-36)amide;		
Val ^s Arg ³⁴ Lys ²⁶ -(Glut-AHex)-GLP-1(7-36)amide;	Val ^s Arg ^{26,34} Lys ³⁵ -(Glut-AHex)-GLP-1(7-		
36)amide; Val ^e Arg ²⁶ Lys ³⁴ -(Glut-AHex)-GLP-1(7-37); Val ^s Arg ³⁴ Lys ²⁶ -(Glut-AHex)-GLP-1(7-37);		
Val ^s Arg ^{26,34} Lys ³⁶ -(Glut-AHex)-GLP-1(7-37);	Val ⁸ Arg ²⁸ Lys ³⁴ -(Glut-AHex)-GLP-1(7-38);		
Val ^s Arg ³⁴ Lys ²⁵ -(Glut-AHex)-GLP-1(7-38) ;	Val ⁸ Arg ^{26,34} Lys ³⁸ -(Glut-AHex)-GLP-1(7-38);		
Val⁰Arg²⁰Lys³₄-(Glut-AHex)-GLP-1(7-39);	Val [®] Arg ³⁴ Lys ²⁸ -(Glut-AHex)-GLP-1(7-39);		
Val ⁸ Arg ^{26,34} Lys ³⁹ -(Glut-AHex)-GLP-1(7-39);			
Ser ^s Arg ²⁶ Lys ³⁴ -(Glut-AHex)-GLP-1(7-36);	Ser ^a Arg ³⁴ Lys ²⁶ -(Glut-AHex)-GLP-1(7-36);		
Ser ^s Arg ^{26,34} Lys ³⁶ -(Giut-AHex)-GLP-1(7-36);	Ser ^a Arg ²⁶ Lys ³⁴ -(Glut-AHex)-GLP-1(7-36)amide;		
Ser ^a Arg ³⁴ Lys ²⁶ -(Glut-AHex)-GLP-1(7-36)amide	; Ser [®] Arg ^{26,34} Lys ³⁶ -(Glut-AHex)-GLP-1(7-		
36)amide; Ser [®] Arg ²⁶ Lys ³⁴ -(Glut-AHex)-GLP-1(7-37); Ser ^s Arg ³⁴ Lys ²⁸ -(Glut-AHex)-GLP-1(7-37);		
Ser ^a Arg ^{26,34} Lys ³⁶ -(Glut-AHex)-GLP-1(7-37);	Ser ^s Arg ²⁶ Lys ³⁴ -(Glut-AHex)-GLP-1(7-38);		
Ser ⁸ Arg ³⁴ Lys ²⁶ -(Glut-AHex)-GLP-1(7-38) ;	Ser ⁸ Arg ^{26,34} Lys ³⁸ -(Glut-AHex)-GLP-1(7-38);		

Ser⁸Arg³⁴Lys²⁶-(Glut-AHex)-GLP-1(7-38) Ser⁸Arg³⁴Lys²⁶-(Glut-AHex)-GLP-1(7-39); Ser⁸Arg²⁶Lys³⁴-(Glut-AHex)-GLP-1(7-39); 25 Ser⁸Arg^{26,34}Lys³⁹-(Glut-AHex)-GLP-1(7-39); Thr⁸Arg²⁶Lys³⁴-(Glut-AHex)-GLP-1(7-36): Thr⁸Arg^{26,34}Lys³⁶-(Glut-AHex)-GLP-1(7-36); Thr⁸Arg³⁴Lys²⁸-(Glut-AHex)-GLP-1(7-36)amide; 36)amide; Thr⁸Arg²⁶Lys³⁴-(Glut-AHex)-GLP-1(7-37); Thr⁸Arg³⁴Lys²⁶-(Glut-AHex)-GLP-1(7-37); 30 Thr8Arg26,34Lys36-(Glut-AHex)-GLP-1(7-37);

Thr³Arg³⁴Lys²⁶-(Glut-AHex)-GLP-1(7-38) Thr⁸Arg²⁶Lys³⁴-(Glut-AHex)-GLP-1(7-39); Thr⁸Arg^{26,34}Lys³⁹-(Glut-AHex)-GLP-1(7-39);

Thr⁸Arg³⁴Lys²⁶-(Glut-AHex)-GLP-1(7-36); Thr8Arg26Lys34-(Glut-AHex)-GLP-1(7-36)amide; Thr⁸Arg^{26,34}Lys³⁶-(Glut-AHex)-GLP-1(7-Thr⁴Arg²⁶Lys³⁴-(Glut-AHex)-GLP-1(7-38); Thr^aArg^{28,34}Lys³⁸-(Glut-AHex)-GLP-1(7-38);

Thr⁸Ara³⁴Lys²⁶-(Glut-AHex)-GLP-1(7-39);

Arg³⁴Lys²⁶-(Giut-AHex)-GLP-1(7-39);

1(7-38):

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Arg²⁶Lys³⁴-(Glut-AHex)-GLP-1(7-39);

 Ser⁸Asp³⁵Arg^{26,34}Lys³⁶-(Glut-AHex)-GLP-1(7-36);
 Ser⁸Asp³⁵Arg^{26,34}Lys³⁶-(Glut-AHex)-GLP-1(7-36);

 Ser⁸Asp³⁵Arg^{26,34}Lys³⁶-(Glut-AHex)-GLP-1(7-37);
 Ser⁸Asp³⁷Arg^{26,34}Lys³⁸-(Glut-AHex)-GLP-1(7-37);

 GLP-1(7-38);
 Ser⁸Asp³⁸Arg^{26,34}Lys³⁹-(Glut-AHex)-GLP-1(7-39);

 Ser⁸Asp³⁵Arg^{26,34}Lys³⁸-(Glut-AHex)-GLP-1(7-39);
 Ser⁸Asp³⁵Arg^{26,34}Lys³⁶-(Glut-AHex)-GLP-1(7-36);

- 38); Val'Asp⁻Arg^{26,34}Lys³⁶-(Glut-AHex)-GLP-1(7-36); Ser⁸Glu³⁵Arg^{26,34}Lys³⁶-(Glut-AHex)-GLP-1(7-36); Ser⁸Glu³⁷Arg^{26,34}Lys³⁸-(Glut-AHex)-GLP-1(7-37); Ser⁸Glu³⁷Arg^{26,34}Lys³⁸-(Glut-AHex)-GLP-1(7-38); Ser⁸Glu³⁸Arg^{26,34}Lys³⁹-(Glut-AHex)-GLP-1(7-39); Ser⁸Glu³⁵Arg^{26,34}Lys³⁶-(Glut-AHex)-GLP-1(7-36); Ser⁸Glu³⁵Arg^{26,34}Lys³⁸-(Glut-AHex)-GLP-1(7-36); Ser⁸Glu³⁵Arg^{26,34}Lys³⁸-(Glut-AHex)-GLP-1(7-37); Ser⁸Glu³⁵Arg^{26,34}Lys³⁸-(Glut-AHex)-GLP-1(7-36)amide; Ser⁸Glu³⁶Arg^{26,34}Lys³⁷-(Glut-AHex)-GLP-1(7-37); Ser⁸Glu³⁵Arg^{26,34}Lys³⁸-(Glut-AHex)-GLP-1(7-37); Ser⁸Glu³⁶Arg^{26,34}Lys³⁸-(Glut-AHex)-GLP-1(7-37); Ser⁸Glu³⁶Arg^{26,34}Lys³⁸-(Glut-AHex)-GLP-1(7-37); Ser⁸Glu³⁶Arg^{26,34}Lys³⁸-(Glut-AHex)-GLP-1(7-37); Ser⁸Glu³⁶Arg^{26,34}Lys³⁸-(Glut-AHex)-GLP-1(7-39);
- Val⁸Asp³⁵Arg^{26,34}Lys³⁶-(Glut-AHex)-GLP-1(7-36); Val⁸Asp³⁵Arg^{26,34}Lys³⁶-(Glut-AHex)-GLP-1(7-36); Val⁸Asp³⁶Arg^{26,34}Lys³⁸-(Glut-AHex)-GLP-1(7-37); Val⁸Asp³⁷Arg^{26,34}Lys³⁸-(Glut-AHex)-GLP-1(7-38); Val⁸Asp³⁸Arg^{26,34}Lys³⁹-(Glut-AHex)-GLP-1(7-39); Val⁸Asp³⁵Arg^{26,34}Lys³⁶-(Glut-AHex)-GLP-1(7-36); Val⁸Asp³⁵Arg^{26,34}Lys³⁶-(Glut-AHex)-GLP-1(7-36); Val⁸Asp³⁵Arg^{26,34}Lys³⁶-(Glut-AHex)-GLP-1(7-36); Val⁸Asp³⁵Arg^{26,34}Lys³⁶-(Glut-AHex)-GLP-1(7-36); Val⁸Asp³⁵Arg^{26,34}Lys³⁶-(Glut-AHex)-GLP-1(7-36); Val⁸Asp³⁵Arg^{26,34}Lys³⁶-(Glut-AHex)-GLP-1(7-37); Val⁸Asp³⁵Arg^{26,34}Lys³⁸-(Glut-AHex)-GLP-1(7-38); Val⁸Asp³⁶Arg^{26,34}Lys³⁹-(Glut-AHex)-GLP-1(7-37); Val⁸Asp³⁷Arg^{26,34}Lys³⁸-(Glut-AHex)-GLP-1(7-38); Val⁸Asp³⁶Arg^{26,34}Lys³⁹-(Glut-AHex)-GLP-1(7-39);
- Val⁸Glu³⁵Arg^{26,34}Lys³⁸-(Glut-AHex)-GLP-1(7-36); Val⁸Glu³⁵Arg^{26,34}Lys³⁶-(Glut-AHex)-GLP-1(7-36)amide; Val⁸Glu³⁶Arg^{26,34}Lys³⁷-(Glut-AHex)-GLP-1(7-37); Val⁸Glu³⁷Arg^{26,34}Lys³⁸-(Glut-AHex)-15 GLP-1(7-38); Val⁸Glu³⁸Arg^{26,34}Lys³⁹-(Glut-AHex)-GLP-1(7-39); Val⁸Glu³⁵Arg^{26,34}Lys³⁸-(Glut-AHex)-GLP-1(7-36); Val⁸Glu³⁵Arg^{26,34}Lys³⁸-(Glut-AHex)-GLP-1(7-36)amide; Val⁸Glu³⁵Arg^{26,34}Lys³⁷-(Glut-AHex)-GLP-1(7-37); Val⁸Glu³⁷Arg^{26,34}Lys³⁸-(Glut-AHex)-GLP-1(7-38); Val⁸Glu³⁸Arg^{26,34}Lys³⁹-(Glut-AHex)-GLP-1(7-39);
- 38); Gly⁸Glu³⁸Arg^{26,34}Lys³⁹-(Glut-AHex)-GLP-1(7-39);
 Gly⁸Asp³⁵Arg^{26,34}Lys³⁵-(Glut-AHex)-GLP-1(7-36); Gly⁸Asp³⁵Arg^{26,34}Lys³⁶-(Glut-AHex)-GLP-1(7-36); Gly⁸Asp³⁶Arg^{26,34}Lys³⁹-(Glut-AHex)-GLP-1(7-39); Gly⁸Asp³⁵Arg^{26,34}Lys³⁸-(Glut-AHex)-GLP-1(7-38); Gly⁸Asp³⁸Arg^{26,34}Lys³⁹-(Glut-AHex)-GLP-1(7-39); Gly⁸Asp³⁵Arg^{26,34}Lys³⁶-(Glut-AHex)-GLP-1(7-36); Gly⁸Asp³⁵Arg^{26,34}Lys³⁶-(Glut-AHex)-GLP-1(7-36); Gly⁸Asp³⁵Arg^{26,34}Lys³⁶-(Glut-AHex)-GLP-1(7-36); Gly⁸Asp³⁵Arg^{26,34}Lys³⁶-(Glut-AHex)-GLP-1(7-36); Gly⁸Asp³⁵Arg^{26,34}Lys³⁶-(Glut-AHex)-GLP-1(7-37); Gly⁸Asp³⁵Arg^{26,34}Lys³⁸-(Glut-AHex)-GLP-1(7-36)

38); Giv⁸Asp³⁸Arg^{26,34}Lys³⁹-(Glut-AHex)-GLP-1(7-39);

Gly⁸Glu³⁵Arg^{28,34}Lys³⁵-(Glut-AHex)-GLP-1(7-36); Gly⁸Glu³⁵Arg^{28,34}Lys³⁸-(Glut-AHex)-GLP-1(7-36)amide; Gly⁸Glu³⁶Arg^{28,34}Lys³⁷-(Glut-AHex)-GLP-1(7-37); Gly⁸Glu³⁷Arg^{28,34}Lys³⁸-(Glut-AHex)-GLP-1(7-38); Gly⁸Glu³⁸Arg^{28,34}Lys³⁹-(Glut-AHex)-GLP-1(7-39); Gly⁸Glu³⁵Arg^{28,34}Lys³⁸-(Glut-AHex)-GLP-1(7-36); Gly⁸Glu³⁵Arg^{28,34}Lys³⁹-(Glut-AHex)-GLP-1(7-36)amide; Gly⁸Glu³⁶Arg^{26,34}Lys³⁷-(Glut-AHex)-GLP-1(7-37); Gly⁸Glu³⁷Arg^{28,34}Lys³⁸-(Glut-AHex)-GLP-1(7-36)amide;

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Sol, Gly Asp ArgLys(Glut-Arrex)-GLP -1(7-37);Gly 8 AspGly 19 ArgGly 26,34 LysGlut-AHex)-GLP -1(7-37);Gly 8 AspGly 19 ArgGly 26,34 LysGlut-AHex)-GLP -1(7-38);(Glut-AHex)-GLP -1(7-38);Gly 8 AspGly 8 AspGly 17 ArgGlut-AHex)-GLP -1(7-38);(Glut-AHex)-GLP -1(7-38);Gly 26,34 LysGlut-AHex)-GLP -1(7-36);ArgArgArgGlut-AHex)-GLP -1(7-36);ArgArgArgGlut-AHex)-GLP -1(7-37);Arg

- (Glut-AHex)-GLP-1(7-38); Gly⁸Asp¹⁷Arg^{28,34}Lys²³-(Glut-AHex)-GLP-1(7-38);
 Arg^{28,34}Lys²⁷-(Glut-AHex)-GLP-1(7-36); Arg^{28,34}Lys²⁷-(Glut-AHex)-GLP-1(7-36)amide;
 Arg^{28,34}Lys²⁷-(Glut-AHex)-GLP-1(7-37); Arg^{28,34}Lys²⁷-(Glut-AHex)-GLP-1(7-38);
 Gly⁸Asp¹⁹Arg^{28,34}Lys²⁷-(Glut-AHex)-GLP-1(7-36); Gly⁸Asp¹⁷Arg^{28,34}Lys²⁷-(Glut-AHex)-GLP-1(7-38);
 Gly⁸Asp¹⁹Arg^{28,34}Lys²⁷-(Glut-AHex)-GLP-1(7-36); Gly⁸Asp¹⁷Arg^{28,34}Lys²⁷-(Glut-AHex)-GLP-1(7-36);
 Gly⁸Asp¹⁹Arg^{28,34}Lys²⁷-(Glut-AHex)-GLP-1(7-36)amide; Gly⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Glut-AHex)-GLP-1(7-36)amide; Gly⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glut-AHex)-GLP-1(7-37); Gly⁸Asp¹⁹Arg^{26,}
- 20 (Glut-AHex)-GLP-1(7-38); Gly⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Glut-AHex)-GLP-1(7-38); Arg^{28,34}Lys²³-(Glut-AHex)-GLP-1(7-36); Arg^{28,34}Lys²³-(Glut-AHex)-GLP-1(7-37); Gly⁸Asp¹⁹Arg^{26,34}Lys²³-(Glut-AHex)-GLP-1(7-36); Gly⁸Asp¹⁹Arg^{26,34}Lys²³-(Glut-AHex)-GLP-1(7-36); Gly⁸Asp¹⁹Arg^{26,34}Lys²³-(Glut-AHex)-GLP-1(7-36); GLP-1(7-36)amide; Gly⁸Asp¹⁹Arg^{26,34}Lys²³-(Glut-AHex)-GLP-1(7-36)amide; Gly⁸Asp¹⁷Arg^{26,34}Lys²³-(Glut-AHex)-GLP-1(7-36)amide; Gly⁸Asp¹⁹Arg^{26,34}Lys²³-(Glut-AHex)-GLP-1(7-37); Gly⁸Asp¹⁹Arg^{26,34}Lys²³-
- 15
 Arg^{28,34}Lys¹⁸-(Glut-AHex)-GLP-1(7-36);
 Arg^{28,34}Lys¹⁸-(Glut-AHex)-GLP-1(7-36)amide;

 15
 Arg^{28,34}Lys¹⁸-(Glut-AHex)-GLP-1(7-36);
 Arg^{28,34}Lys¹⁸-(Glut-AHex)-GLP-1(7-36)amide;

 15
 Arg^{28,34}Lys¹⁸-(Glut-AHex)-GLP-1(7-36);
 Arg^{28,34}Lys¹⁸-(Glut-AHex)-GLP-1(7-38);

 15
 Arg^{28,34}Lys¹⁸-(Glut-AHex)-GLP-1(7-37);
 Arg^{28,34}Lys¹⁸-(Glut-AHex)-GLP-1(7-38);

 16
 Gly⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glut-AHex)-GLP-1(7-36);
 Gly⁸Asp¹⁷Arg^{28,34}Lys¹⁸-(Glut-AHex)-GLP-1(7-36);

 17
 Gly⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glut-AHex)-GLP-1(7-36)amide;
 Gly⁸Asp¹⁷Arg^{28,34}Lys¹⁸-(Glut-AHex)-GLP-1(7-36);

 18
 Gly⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glut-AHex)-GLP-1(7-36)amide;
 Gly⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glut-AHex)-GLP-1(7-37);

 18
 Gly⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glut-AHex)-GLP-1(7-37);
 Gly⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glut-AHex)-GLP-1(7-37);
- 36)amide; Thr⁸Asp³⁶Arg^{26,34}Lys³⁷-(Glut-AHex)-GLP-1(7-37); Thr⁸Asp³⁷Arg^{26,34}Lys³⁸-(Glut-AHex)-GLP-1(7-38); Thr⁸Asp³⁸Arg^{26,34}Lys³⁹-(Glut-AHex)-GLP-1(7-39); Thr⁸Asp³⁵Arg^{26,34}Lys³⁸-(Glut-AHex)-GLP-1(7-36); Thr⁸Asp³⁵Arg^{26,34}Lys³⁶-(Glut-AHex)-GLP-1(7-36)amide; Thr⁸Asp³⁶Arg^{26,34}Lys³⁷-(Glut-AHex)-GLP-1(7-37); Thr⁸Asp³⁷Arg^{26,34}Lys³⁸-(Glut-AHex)-GLP-1(7-38); Thr⁸Asp³⁸Arg^{26,34}Lys³⁹-(Glut-AHex)-GLP-1(7-37); Thr⁸Asp³⁷Arg^{26,34}Lys³⁸-(Glut-AHex)-GLP-1(7-38); Thr⁸Asp³⁸Arg^{26,34}Lys³⁹-(Glut-AHex)-GLP-1(7-39);
- 36)amide;
 Thr⁸Glu³⁶Arg^{26,34}Lys³⁷-(Glut-AHex)-GLP-1(7-37);
 Thr⁸Glu³⁷Arg^{26,34}Lys³⁸-(Glut-AHex)

 5
 GLP-1(7-38);
 Thr⁸Glu³⁸Arg^{26,34}Lys³⁹-(Glut-AHex)-GLP-1(7-39);
 Thr⁸Glu³⁵Arg^{26,34}Lys³⁸-(Glut-AHex)-GLP-1(7-36);

 5
 GLP-1(7-36);
 Thr⁸Glu³⁵Arg^{26,34}Lys³⁶-(Glut-AHex)-GLP-1(7-36);
 Thr⁸Glu³⁶Arg^{26,34}Lys³⁸-(Glut-AHex)-GLP-1(7-36);

 7
 hr⁸Glu³⁶Arg^{26,34}Lys³⁷-(Glut-AHex)-GLP-1(7-37);
 Thr⁸Glu³⁷Arg^{26,34}Lys³⁸-(Glut-AHex)-GLP-1(7-38);

 7
 hr⁸Glu³⁸Arg^{26,34}Lys³⁹-(Glut-AHex)-GLP-1(7-37);
 Thr⁸Glu³⁷Arg^{26,34}Lys³⁸-(Glut-AHex)-GLP-1(7-38);

 7
 hr⁸Glu³⁸Arg^{26,34}Lys³⁸-(Glut-AHex)-GLP-1(7-36);
 Thr⁸Asp³⁵Arg^{26,34}Lys³⁶-(Glut-AHex)-GLP-1(7-36);
- Ser⁸Asp³⁸Arg^{26,34}Lys³⁷-(Glut-AHex)-GLP-1(7-37); Ser⁸Asp³⁷Arg^{26,34}Lys³⁸-(Glut-AHex)-GLP-1(7-38); Ser⁸Asp³⁸Arg^{26,34}Lys³⁹-(Glut-AHex)-GLP-1(7-39);

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Thr^aGlu³⁵Arg^{26,34}Lys³⁶-(Glut-AHex)-GLP-1(7-36);

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Thr^aGlu³⁵Arg^{26,24}Lys³⁶-(Glut-AHex)-GLP-1(7-

 Arg^{26,34}Lys²⁷-(Glut-AHex)-GLP-1(7-36);
 Arg^{26,34}Lys²⁷-(Glut-AHex)-GLP-1(7-36)amide;

 30
 Arg^{26,34}Lys²⁷-(Glut-AHex)-GLP-1(7-37);
 Arg^{26,34}Lys²⁷-(Glut-AHex)-GLP-1(7-38);

 Ser⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glut-AHex)-GLP-1(7-36);
 Ser⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Glut-AHex)-GLP-1(7-36);

 Ser⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glut-AHex)-GLP-1(7-36);
 Ser⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Glut-AHex)-GLP-1(7-36);

 GLP-1(7-36)amide;
 Ser⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glut-AHex)-GLP-1(7-36)amide;

 GLP-1(7-36)amide;
 Ser⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glut-AHex)-GLP-1(7-37);

 Ser⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glut-AHex)-GLP-1(7-38);
 Ser⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glut-AHex)-GLP-1(7-38);

(Glut-AHex)-GLP-1(7-38); Ser⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Glut-AHex)-GLP-1(7-38);
 Arg^{26,34}Lys²³-(Glut-AHex)-GLP-1(7-36);
 Arg^{26,34}Lys²³-(Glut-AHex)-GLP-1(7-36);
 Arg^{26,34}Lys²³-(Glut-AHex)-GLP-1(7-37);
 Ser⁸Asp¹⁹Arg^{26,34}Lys²³-(Glut-AHex)-GLP-1(7-36);
 Ser⁸Asp¹⁹Arg^{26,34}Lys²³-(Glut-AHex)-GLP-1(7-36);
 Ser⁸Asp¹⁹Arg^{26,34}Lys²³-(Glut-AHex)-GLP-1(7-36);
 Ser⁸Asp¹⁹Arg^{26,34}Lys²³-(Glut-AHex)-GLP-1(7-36);
 Ser⁸Asp¹⁹Arg^{26,34}Lys²³-(Glut-AHex)-GLP-1(7-36)amide;
 Ser⁸Asp¹⁹Arg^{26,34}Lys²³-(Glut-AHex)-GLP-1(7-36)amide;
 Ser⁸Asp¹⁹Arg^{26,34}Lys²³-(Glut-AHex)-GLP-1(7-36)amide;
 Ser⁸Asp¹⁹Arg^{26,34}Lys²³-(Glut-AHex)-GLP-1(7-36)amide;
 Ser⁸Asp¹⁹Arg^{26,34}Lys²³-(Glut-AHex)-GLP-1(7-37);
 Ser⁸Asp¹⁹Arg^{26,34}Lys²³-(Glut-AHex)-GLP-1(7-37);

(Glut-AHex)-GLP-1(7-38); Ser⁸Asp¹⁷Arg^{26,34}Lys²³-(Glut-AHex)-GLP-1(7-38);

- (Glut-Artex)-GLP-1(7-36);
 Arg^{26,34}Lys¹⁸-(Glut-AHex)-GLP-1(7-36)amide;

 Arg^{26,34}Lys¹⁸-(Glut-AHex)-GLP-1(7-36);
 Arg^{26,34}Lys¹⁸-(Glut-AHex)-GLP-1(7-36)amide;

 Arg^{26,34}Lys¹⁸-(Glut-AHex)-GLP-1(7-37);
 Arg^{26,34}Lys¹⁸-(Glut-AHex)-GLP-1(7-38);

 Ser⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glut-AHex)-GLP-1(7-36);
 Ser⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Glut-AHex)-GLP-1(7-36);

 Ser⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glut-AHex)-GLP-1(7-36);
 Ser⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Glut-AHex)-GLP-1(7-36);

 GLP-1(7-36)amide;
 Ser⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glut-AHex)-GLP-1(7-37);
- (Glut-AHex)-GLP-1(7-38); Val⁸Asp¹⁷Arg^{28,34}Lys²³-(Glut-AHex)-GLP-1(7-38); Arg^{28,34}Lys²⁷-(Glut-AHex)-GLP-1(7-36); Arg^{26,34}Lys²⁷-(Glut-AHex)-GLP-1(7-37); Val⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glut-AHex)-GLP-1(7-36); Val⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glut-AHex)-GLP-1(7-36); Val⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glut-AHex)-GLP-1(7-36); Val⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glut-AHex)-GLP-1(7-36); Val⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glut-AHex)-GLP-1(7-36); ClP-1(7-36)amide; Val⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glut-AHex)-GLP-1(7-37); ClP-1(7-36)amide; Val⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glut-AHex)-GLP-1(7-37); Val⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glut-AHex)-GLP-1(7-37); ClP-1(7-38); Val⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Glut-AHex)-GLP-1(7-38);
- (Glut-AHex)-GLP-1(7-38); Val⁸Asp¹⁷Arg^{28,34}Lys¹⁸-(Glut-AHex)-GLP-1(7-38);
 Arg^{28,34}Lys²³-(Glut-AHex)-GLP-1(7-36); Arg^{28,34}Lys²³-(Glut-AHex)-GLP-1(7-36)amide;
 Arg^{26,34}Lys²³-(Glut-AHex)-GLP-1(7-37); Arg^{26,34}Lys²³-(Glut-AHex)-GLP-1(7-38);
 Val⁸Asp¹⁹Arg^{26,34}Lys²³-(Glut-AHex)-GLP-1(7-36); Val⁸Asp¹⁷Arg^{26,34}Lys²³-(Glut-AHex)-GLP-1(7-36);
 Val⁸Asp¹⁹Arg^{26,34}Lys²³-(Glut-AHex)-GLP-1(7-36)amide; Val⁸Asp¹⁷Arg^{26,34}Lys²³-(Glut-AHex)-GLP-1(7-36)amide; Val⁸Asp¹⁹Arg^{26,34}Lys²³-(Glut-AHex)-GLP-1(7-36)amide; Val⁸Asp¹⁹Arg^{26,34}Lys²³-(Glut-AHex)-GLP-1(7-37); Val⁸Asp¹⁹Arg^{26,34}Lys²
- Val⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glut-AHex)-GLP-1(7-36); Val⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Glut-AHex)-GLP-1(7-36); Val⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glut-AHex)-GLP-1(7-36)amide; Val⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Glut-AHex)-GLP-1(7-36)amide; Val⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glut-AHex)-GLP-1(7-37); Val⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glut-AHex)-GLP-1(7-38); Val⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Glut-AHex)-GLP-1(7-38);

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Gly⁸Arg^{26,34}Lys³⁶-(Glut-AOct)-GLP-1(7-37); 30 Gly⁸Arg³⁴Lys²⁶-(Glut-AOct)-GLP-1(7-38) Gly⁸Arg²⁶Lys³⁴-(Glut-AOct)-GLP-1(7-39); Gly⁸Arg^{26,34}Lys³⁹-(Glut-AOct)-GLP-1(7-39);

Gly⁸Arg^{26,34}Lys³⁶-(Glut-AOct)-GLP-1(7-36);

Gly8Arg34Lys26-(Glut-AOct)-GLP-1(7-36)amide;

Gly⁸Arg²⁶Lys³⁴-(Glut-AOct)-GLP-1(7-36)amide; Gly8Arg26,34Lys36-(Glut-AOct)-GLP-1(7-36)amide; Gly⁸Arg²⁶Lys³⁴-(Glut-AOct)-GLP-1(7-37); Gly⁸Arg³⁴Lys²⁶-(Glut-AOct)-GLP-1(7-37); Gly⁸Arg²⁶Lys³⁴-(Glut-AOct)-GLP-1(7-38); Gly⁸Arg^{26,34}Lys³⁸-(Glut-AOct)-GLP-1(7-38); Glv⁸Arg³⁴Lys²⁶-(Glut-AOct)-GLP-1(7-39);

- AOct)-GLP-1(7-36); Arg²⁶Lys³⁴-(Glut-AOct)-GLP-1(7-36)amide; Arg³⁴ Lys²⁶-(Glut-AOct)-GLP-20 1(7-36)amide; Arg^{26,34}Lys³⁶-(Glut-AOct)-GLP-1(7-36)amide; Arg²⁶ Lys³⁴-(Glut-AOct)-GLP-1(7-37); Arg³⁴Lys²⁶-(Glut-AOct)-GLP-1(7-37); Arg^{26,34}Lys³⁵-(Glut-AOct)-GLP-1(7-37); Arg²⁶Lys³⁴-(Glut-AOct)-GLP-1(7-38); Arg³⁴Lys²⁶-(Glut-AOct)-GLP-1(7-38) ; Arg^{26,34}Lys³⁸-(Glut-AOct)-GLP-1(7-38); Arg²⁵Lys³⁴-(Glut-AOct)-GLP-1(7-39); Arg³⁴Lys²⁶-(Glut-AOct)-GLP-1(7-39); Arg^{26,34}Lys³⁹-(Glut-AOct)-GLP-1(7-39); 25 Gly⁸Arg³⁴Lys²⁶-(Glut-AOct)-GLP-1(7-36); Gly⁸Arg²⁶Lys³⁴-(Glut-AOct)-GLP-1(7-36);
- Arg^{26,34}Lys²⁷-(Glut-AHex)-GLP-1(7-36)amide; Arg^{26,34}Lys²⁷-(Glut-AHex)-GLP-1(7-36); Arg^{26,34}Lys²⁷-(Glut-AHex)-GLP-1(7-38); Arg^{26,34}Lys²⁷-(Glut-AHex)-GLP-1(7-37); Thr⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glut-AHex)-GLP-1(7-36); Thr⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Glut-AHex)-GLP-1(7-15 36); Thr⁸Asp¹⁹Arg^{28,34}Lys²⁷-(Glut-AHex)-GLP-1(7-36)amide; Thr⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Glut-AHex)-GLP-1(7-36)amide; Thr^aAsp¹⁹Arg^{28,34}Lys²⁷-(Glut-AHex)-GLP-1(7-37); Thr^aAsp¹⁹Arg^{26,34}Lys²⁷-(Glut-AHex)-GLP-1(7-38); Thr⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Glut-AHex)-GLP-1(7-38); Arg²⁶Lys³⁴-(Glut-AOct)-GLP-1(7-36); Arg³⁴Lys²⁶-(Glut-AOct)-GLP-1(7-36); Arg^{26,34}Lys³⁶-(Glut-
- Arg^{26,34}Lys²³-(Glut-AHex)-GLP-1(7-36)amide; Arg^{26,34}Lys²³-(Glut-AHex)-GLP-1(7-36); Arg26,34Lys23-(Glut-AHex)-GLP-1(7-38); Arg^{26,34}Lys²³-(Glut-AHex)-GLP-1(7-37); Thr^aAsp¹⁹Arg^{26,34}Lys²³-(Glut-AHex)-GLP-1(7-36); Thr^aAsp¹⁷Arg^{28,34}Lys²³-(Glut-AHex)-GLP-1(7-36); Thr^aAsp¹⁹Arg^{26,34}Lys²³-(Glut-AHex)-GLP-1(7-36)amide; Thr^aAsp¹⁷Arg^{26,34}Lys²³-(Glut-AHex)-10 GLP-1(7-36)amide; Thr⁸Asp¹⁹Arg^{26,34}Lys²³-(Glut-AHex)-GLP-1(7-37); Thr⁸Asp¹⁹Arg^{26,34}Lys²³-(Glut-AHex)-GLP-1(7-38); Thr⁸Asp¹⁷Arg^{28,34}Lys²³-(Glut-AHex)-GLP-1(7-38);

(Glut-AHex)-GLP-1(7-38); Thr^aAsp¹⁷Arg^{26,34}Lys¹⁸-(Glut-AHex)-GLP-1(7-38);

Arg^{26,34}Lys¹⁸-(Glut-AHex)-GLP-1(7-36)amide; Arg^{26,34}Lys¹⁸-(Glut-AHex)-GLP-1(7-36); Arg^{26,34}Lys¹⁸-(Glut-AHex)-GLP-1(7-38); Arg^{26,34}Lys¹⁸-(Glut-AHex)-GLP-1(7-37); Thr⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glut-AHex)-GLP-1(7-36); Thr⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Glut-AHex)-GLP-1(7-36); Thr^aAsp¹⁹Arg^{26,24}Lys¹⁸-(Glut-AHex)-GLP-1(7-36)amide; Thr^aAsp¹⁷Arg^{26,34}Lys¹⁸-(Glut-AHex)-GLP-1(7-36)amide; Thr⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glut-AHex)-GLP-1(7-37); Thr⁸Asp¹⁹Arg^{26,34}Lys¹⁸-5

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Gly⁸Glu³⁸Arg^{26,34}Lys³⁹-(Glut-AOct)-GLP-1(7-39); Gly⁸Asp³⁵Arg^{26,34}Lys³⁶-(Glut-AOct)-GLP-1(7-36); Glv⁸Asp³⁵Arg^{26,34}Lys³⁶-(Glut-AOct)-GLP-1(7-36)amide; Gly8Asp36Arg28.34Lys37-(Glut-AOct)-GLP-1(7-37); Gly8Asp37Arg28.34Lys38-(Glut-AOct)-Gly⁸Asp³⁸Arg^{26,34}Lys³⁹-(Glut-AOct)-GLP-1(7-39): Gly⁸Asp³⁵Arg^{26,34}Lys³⁶-(Glut-GLP-1(7-38): Gly⁸Asp³⁵Arg^{26,34}Lys³⁶-(Glut-AOct)-GLP-1(7-36)amide; AOct)-GLP-1(7-36);

Thr8Arg26.34Lys39-(Glut-AOct)-GLP-1(7-39); Gly⁸Glu³⁵Arg^{26,34}Lys³⁶-(Glut-AOct)-GLP-1(7-36); Gly8Glu35Arg26,34Lys36-(Glut-AOct)-GLP-1(7-25 36)amide; Gly⁸Glu³⁸Arg^{26,34}Lys³⁷-(Glut-AOct)-GLP-1(7-37); Gly⁸Glu³⁷Arg^{26,34}Lys³⁸-(Glut-AOct)-Gly⁸Glu³⁸Arg^{26,34}Lys³⁹-(Glut-AOct)-GLP-1(7-39); Gly8Glu35Arg26,34Lys36-(Glut-GLP-1(7-38); AOct)-GLP-1(7-36); Gly⁸Glu³⁵Arg^{26,34}Lys³⁶-(Glut-AOct)-GLP-1(7-36)amide; Gly8Glu36Arg26.34Lys37-(Glut-AOct)-GLP-1(7-37); Gly8Glu37Arg26.34Lys38-(Glut-AOct)-GLP-1(7-38);

Thr⁸Arg³⁴Lys²⁸-(Glut-AOct)-GLP-1(7-36); Thr⁸Arg²⁶Lys³⁴-(Glut-AOct)-GLP-1(7-36); Thr8Arg26,34Lys36-(Glut-AOct)-GLP-1(7-36); Thr⁸Arg²⁶Lys³⁴-(Glut-AOct)-GLP-1(7-36)amide; Thr⁸Arg^{26,34}Lys³⁶-(Glut-AOct)-GLP-1(7-Thr^aArg³⁴Lys²⁶-(Glut-AOct)-GLP-1(7-36)amide; 36)amide; Thr⁸Arg²⁶Lys³⁴-(Glut-AOct)-GLP-1(7-37); Thr⁸Arg³⁴Lys²⁶-(Glut-AOct)-GLP-1(7-37); 20 Thr⁸Arg^{26,34}Lys³⁶-(Glut-AOct)-GLP-1(7-37): Thr⁸Arg²⁶Lys³⁴-(Glut-AOct)-GLP-1(7-38); Thr^aArg³⁴Lys²⁶-(Glut-AOct)-GLP-1(7-38) Thr⁸Arg^{26,34}Lys³⁸-(Glut-AOct)-GLP-1(7-38); Thr⁸Arg³⁴Lys²⁶-(Glut-AOct)-GLP-1(7-39); Thr⁸Arg²⁶Lys³⁴-(Glut-AOct)-GLP-1(7-39);

36)amide; Ser⁸Arg²⁶Lys³⁴-(Glut-AOct)-GLP-1(7-37); Ser⁸Arg³⁴Lys²⁶-(Glut-AOct)-GLP-1(7-37); Ser⁸Arg²⁶Lys³⁴-(Glut-AOct)-GLP-1(7-38); Ser⁸Arg^{26,34}Lys³⁶-(Glut-AOct)-GLP-1(7-37); Ser⁸Arg³⁴Lys²⁶-(Glut-AOct)-GLP-1(7-38) Ser⁸Arg^{26,34}Lys³⁸-(Glut-AOct)-GLP-1(7-38); Ser⁸Arg³⁴Lys²⁸-(Glut-AOct)-GLP-1(7-39); Ser⁴Arg²⁶Lys³⁴-(Glut-AOct)-GLP-1(7-39); 15 Ser⁸Arg^{26,34}Lys³⁹-(Glut-AOct)-GLP-1(7-39);

Val⁸Arg³⁴Lys²⁶-(Glut-AOct)-GLP-1(7-38) Val[®]Arg^{2®}Lys³⁴-(Glut-AOct)-GLP-1(7-39); Val⁸Arg^{26,34}Lys³⁹-(Glut-AOct)-GLP-1(7-39); Ser⁸Arg²⁶Lys³⁴-(Glut-AOct)-GLP-1(7-36); Ser⁸Arg²⁶Lys³⁴-(Glut-AOct)-GLP-1(7-36)amide; Ser⁸Arg^{26,34}Lys³⁸-(Glut-AOct)-GLP-1(7-36); 10 Ser⁸Arg³⁴Lvs²⁸-(Glut-AOct)-GLP-1(7-36)amide:

Val⁸Arg²⁸Lys³⁴-(Glut-AOct)-GLP-1(7-36); Val⁸Arg^{26,34}Lys³⁶-(Glut-AOct)-GLP-1(7-36); Val⁸Arg³⁴Lys²⁶-(Glut-AOct)-GLP-1(7-36)amide; 36)amide; Val[®]Arg^{2®}Lys³⁴-(Glut-AOct)-GLP-1(7-37); Val[®]Arg³⁴Lys^{2®}-(Glut-AOct)-GLP-1(7-37); Val⁸Arg^{26,34}Lys³⁸-(Glut-AOct)-GLP-1(7-37);

Val⁸Arg²⁶Lys³⁴-(Glut-AOct)-GLP-1(7-36)amide; Val⁸Arg^{28,34}Lys³⁸-(Glut-AOct)-GLP-1(7-Val[®]Arg^{2®}Lys³⁴-(Glut-AOct)-GLP-1(7-38); Val⁸Arg^{26,34}Lys³⁸-(Glut-AOct)-GLP-1(7-38); Val⁸Arg³⁴Lvs²⁶-(Glut-AOct)-GLP-1(7-39);

Ser⁸Arg³⁴Lys²⁶-(Glut-AOct)-GLP-1(7-36);

Ser[®]Arg^{26,34}Lys³⁶-(Glut-AOct)-GLP-1(7-

Val⁸Arg³⁴Lys²⁸-(Glut-AOct)-GLP-1(7-36);

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Thr⁸Asp³⁵Arg^{26,34}Lys³⁶-(Glut-AOct)-GLP-1(7-36); Thr⁸Asp³⁵Arg^{26,34}Lys³⁶-(Glut-AOct)-GLP-1(7-36)amide; Thr⁸Asp³⁶Arg^{26,34}Lys³⁷-(Glut-AOct)-GLP-1(7-37); Thr⁸Asp³⁷Arg^{26,34}Lys³⁸-(Glut-AOct)-

- 36), Ser Asp Atg Lys (Glut-AOct)-GLP-1(7-36), Thr⁸Glu³⁵Arg^{26,34}Lys³⁶-(Glut-AOct)-GLP-1(7-36); Thr⁸Glu³⁵Arg^{26,34}Lys³⁶-(Glut-AOct)-GLP-1(7-37); Thr⁸Glu³⁵Arg^{26,34}Lys³⁶-(Glut-AOct)-GLP-1(7-39); Thr⁸Glu³⁵Arg^{26,34}Lys³⁶-(Glut-AOct)-GLP-1(7-39); Thr⁸Glu³⁵Arg^{26,34}Lys³⁶-(Glut-AOct)-GLP-1(7-36)amide; Thr⁸Glu³⁶Arg^{26,34}Lys³⁷-(Glut-AOct)-GLP-1(7-37); Thr⁸Glu³⁶Arg^{26,34}Lys³⁷-(Glut-AOct)-GLP-1(7-37); Thr⁸Glu³⁶Arg^{26,34}Lys³⁷-(Glut-AOct)-GLP-1(7-37); Thr⁸Glu³⁶Arg^{26,34}Lys³⁷-(Glut-AOct)-GLP-1(7-37); Thr⁸Glu³⁶Arg^{26,34}Lys³⁹-(Glut-AOct)-GLP-1(7-39);
- Ser⁸Asp³⁵Arg^{26,34}Lys³⁶-(Glut-AOct)-GLP-1(7-36);
 Ser⁸Asp³⁵Arg^{26,34}Lys³⁸-(Glut-AOct)-GLP-1(7-36);

 36)amide;
 Ser⁸Asp³⁶Arg^{26,34}Lys³⁷-(Glut-AOct)-GLP-1(7-37);

 Ser⁸Asp³⁵Arg^{26,34}Lys³⁸-(Glut-AOct)-GLP-1(7-39);
 Ser⁸Asp³⁵Arg^{26,34}Lys³⁸-(Glut-AOct)-GLP-1(7-39);

 GLP-1(7-36);
 Ser⁸Asp³⁵Arg^{26,34}Lys³⁸-(Glut-AOct)-GLP-1(7-36);

 Ser⁸Asp³⁶Arg^{26,34}Lys³⁷-(Glut-AOct)-GLP-1(7-37);
 Ser⁸Asp³⁵Arg^{26,34}Lys³⁸-(Glut-AOct)-GLP-1(7-36);

 25
 Ser⁸Asp³⁶Arg^{26,34}Lys³⁷-(Glut-AOct)-GLP-1(7-37);
 Ser⁸Asp³⁷Arg^{28,34}Lys³⁸-(Glut-AOct)-GLP-1(7-36);

 25
 Ser⁸Asp³⁶Arg^{26,34}Lys³⁷-(Glut-AOct)-GLP-1(7-37);
 Ser⁸Asp³⁷Arg^{28,34}Lys³⁸-(Glut-AOct)-GLP-1(7-36);
- 36), Val ASP Alg * Lys * (Glut-AOct)-GLP-1(7-36),
 Ser⁸Glu³⁵Arg^{26,34}Lys³⁶-(Glut-AOct)-GLP-1(7-36); Ser⁸Glu³⁵Arg^{26,34}Lys³⁸-(Glut-AOct)-GLP-1(7-37); Ser⁸Glu³⁵Arg^{26,34}Lys³⁸-(Glut-AOct)-GLP-1(7-39); Ser⁸Glu³⁵Arg^{26,34}Lys³⁶-(Glut-AOct)-GLP-1(7-39); Ser⁸Glu³⁵Arg^{26,34}Lys³⁶-(Glut-AOct)-GLP-1(7-36); Ser⁸Glu³⁵Arg^{26,34}Lys³⁸-(Glut-AOct)-GLP-1(7-36); Ser⁸Glu³⁵Arg^{26,34}Lys³⁷-(Glut-AOct)-GLP-1(7-37); Ser⁸Glu³⁵Arg^{26,34}Lys³⁸-(Glut-AOct)-GLP-1(7-36)amide; Ser⁸Glu³⁵Arg^{26,34}Lys³⁷-(Glut-AOct)-GLP-1(7-37); Ser⁸Glu³⁵Arg^{26,34}Lys³⁸-(Glut-AOct)-GLP-1(7-38); Ser⁸Glu³⁶Arg^{26,34}Lys³⁷-(Glut-AOct)-GLP-1(7-37); Ser⁸Glu³⁷Arg^{28,34}Lys³⁸-(Glut-AOct)-GLP-1(7-38);
 Ser⁸Glu³⁸Arg^{26,34}Lys³⁹-(Glut-AOct)-GLP-1(7-39);
- Val⁸Asp³⁵Arg^{26,34}Lys³⁶-(Glut-AOct)-GLP-1(7-36); Val⁸Asp³⁵Arg^{26,34}Lys³⁶-(Glut-AOct)-GLP-1(7-36); Val⁸Asp³⁵Arg^{26,34}Lys³⁹-(Glut-AOct)-GLP-1(7-37); Val⁸Asp³⁵Arg^{26,34}Lys³⁶-(Glut-AOct)-GLP-1(7-38); Val⁸Asp³⁵Arg^{26,34}Lys³⁹-(Glut-AOct)-GLP-1(7-39); Val⁸Asp³⁵Arg^{26,34}Lys³⁶-(Glut-AOct)-GLP-1(7-36); Val⁸Asp³⁵Arg^{26,34}Lys³⁶-(Glut-AOct)-GLP-1(7-36); Val⁸Asp³⁵Arg^{26,34}Lys³⁶-(Glut-AOct)-GLP-1(7-37); Val⁸Asp³⁵Arg^{26,34}Lys³⁸-(Glut-AOct)-GLP-1(7-36)amide; Val⁸Asp³⁵Arg^{26,34}Lys³⁷-(Glut-AOct)-GLP-1(7-37); Val⁸Asp³⁷Arg^{26,34}Lys³⁸-(Glut-AOct)-GLP-1(7-38); Val⁸Asp³⁵Arg^{26,34}Lys³⁹-(Glut-AOct)-GLP-1(7-37); Val⁸Asp³⁵Arg^{26,34}Lys³⁸-(Glut-AOct)-GLP-1(7-38); Val⁸Asp³⁵Arg^{26,34}Lys³⁹-(Glut-AOct)-GLP-1(7-39);
- 38); Gly⁸Asp³⁸Arg^{26,34}Lys³⁹-(Glut-AOct)-GLP-1(7-39);
 Val⁸Glu³⁵Arg^{26,34}Lys³⁶-(Glut-AOct)-GLP-1(7-36); Val⁸Glu³⁵Arg^{26,34}Lys³⁸-(Glut-AOct)-GLP-1(7-36); Val⁸Glu³⁵Arg^{26,34}Lys³⁸-(Glut-AOct)5 GLP-1(7-38); Val⁸Glu³⁸Arg^{26,34}Lys³⁹-(Glut-AOct)-GLP-1(7-39); Val⁸Glu³⁵Arg^{26,34}Lys³⁸-(Glut-AOct)5 GLP-1(7-36); Val⁸Glu³⁵Arg^{26,34}Lys³⁶-(Glut-AOct)-GLP-1(7-39); Val⁸Glu³⁵Arg^{26,34}Lys³⁸-(Glut-AOct)-GLP-1(7-36); Val⁸Glu³⁵Arg^{26,34}Lys³⁶-(Glut-AOct)-GLP-1(7-36)amide; Val⁸Glu³⁸Arg^{26,34}Lys³⁷-(Glut-AOct)-GLP-1(7-37); Val⁸Glu³⁷Arg^{26,34}Lys³⁸-(Glut-AOct)-GLP-1(7-38); Val⁸Glu³⁸Arg^{26,34}Lys³⁹-(Glut-AOct)-GLP-1(7-37); Val⁸Glu³⁷Arg^{26,34}Lys³⁸-(Glut-AOct)-GLP-1(7-38); Val⁸Glu³⁸Arg^{26,34}Lys³⁹-(Glut-AOct)-GLP-1(7-39);

Gly⁸Asp³⁸Arg^{28,34}Lys³⁷-(Glut-AOct)-GLP-1(7-37); Gly⁸Asp³⁷Arg^{28,34}Lys³⁸-(Glut-AOct)-GLP-1(7-

 Arg^{26,34}Lys²³-(Glut-AOct)-GLP-1(7-36);
 Arg^{26,34}Lys²³-(Glut-AOct)-GLP-1(7-36)amide;

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 Arg^{26,34}Lys²³-(Glut-AOct)-GLP-1(7-37);
 Arg^{26,34}Lys²³-(Glut-AOct)-GLP-1(7-38);

 Val⁸Asp¹⁹Arg^{26,34}Lys²³-(Glut-AOct)-GLP-1(7-36);
 Val⁸Asp¹⁷Arg^{26,34}Lys²³-(Glut-AOct)-GLP-1(7-36);

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 Val⁸Asp¹⁹Arg^{26,34}Lys²³-(Glut-AOct)-GLP-1(7-36)amide;
 Val⁸Asp¹⁷Arg^{26,34}Lys²³-(Glut-AOct)-GLP-1(7-36);

 GLP-1(7-36)amide;
 Val⁸Asp¹⁹Arg^{26,34}Lys²³-(Glut-AOct)-GLP-1(7-37);
 Val⁸Asp¹⁹Arg^{26,34}Lys²³-(Glut-AOct)-GLP-1(7-37);

 Val⁸Asp¹⁹Arg^{26,34}Lys²³-(Glut-AOct)-GLP-1(7-38);
 Val⁸Asp¹⁹Arg^{26,34}Lys²³-(Glut-AOct)-GLP-1(7-38);

 Arg^{26,34}Lys¹⁸-(Glut-AOct)-GLP-1(7-36);
 Arg^{26,34}Lys¹⁸-(Glut-AOct)-GLP-1(7-36)amide;

 Arg^{26,34}Lys¹⁸-(Glut-AOct)-GLP-1(7-37);
 Arg^{26,34}Lys¹⁸-(Glut-AOct)-GLP-1(7-38);

 25
 Val⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glut-AOct)-GLP-1(7-36);
 Val⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Glut-AOct)-GLP-1(7-36);

 25
 Val⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glut-AOct)-GLP-1(7-36);
 Val⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Glut-AOct)-GLP-1(7-36);

 25
 Val⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glut-AOct)-GLP-1(7-36);
 Val⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Glut-AOct)-GLP-1(7-36);

 26
 Val⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glut-AOct)-GLP-1(7-36);
 Val⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Glut-AOct)-GLP-1(7-36);

 27
 Val⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glut-AOct)-GLP-1(7-36);
 Val⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glut-AOct)-GLP-1(7-37);

 28
 Val⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glut-AOct)-GLP-1(7-37);
 Val⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glut-AOct)-GLP-1(7-37);

 29
 Val⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Glut-AOct)-GLP-1(7-38);
 Val⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Glut-AOct)-GLP-1(7-38);

 Arg^{28,34}Lys²⁷-(Glut-AOct)-GLP-1(7-36);
 Arg^{28,34}Lys²⁷-(Glut-AOct)-GLP-1(7-36)amide;

 Arg^{28,34}Lys²⁷-(Glut-AOct)-GLP-1(7-37);
 Arg^{26,34}Lys²⁷-(Glut-AOct)-GLP-1(7-38);

 Gly⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glut-AOct)-GLP-1(7-36);
 Gly⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Glut-AOct)-GLP-1(7-38);

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 36);
 Gly⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glut-AOct)-GLP-1(7-36)amide;
 Gly⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Glut-AOct)-GLP-1(7-36)amide;

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 36);
 Gly⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glut-AOct)-GLP-1(7-36)amide;
 Gly⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Glut-AOct)-GLP-1(7-36)amide;

 20
 36);
 Gly⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glut-AOct)-GLP-1(7-36)amide;
 Gly⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Glut-AOct)-GLP-1(7-36)amide;

 20
 36);
 Gly⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glut-AOct)-GLP-1(7-36)amide;
 Gly⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glut-AOct)-GLP-1(7-37);

 20
 36);
 Gly⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glut-AOct)-GLP-1(7-37);
 Gly⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glut-AOct)-GLP-1(7-37);

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 36);
 Gly⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glut-AOct)-GLP-1(7-37);
 Gly⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glut-AOct)-GLP-1(7-37);

 Arg^{28,34}Lys²³-(Glut-AOct)-GLP-1(7-36);
 Arg^{26,34}Lys²³-(Glut-AOct)-GLP-1(7-36)amide;

 Arg^{26,34}Lys²³-(Glut-AOct)-GLP-1(7-37);
 Arg^{26,34}Lys²³-(Glut-AOct)-GLP-1(7-38);

 Gly⁸Asp¹⁹Arg^{26,34}Lys²³-(Glut-AOct)-GLP-1(7-36);
 Gly⁸Asp¹⁷Arg^{26,34}Lys²³-(Glut-AOct)-GLP-1(7-38);

 Gly⁸Asp¹⁹Arg^{26,34}Lys²³-(Glut-AOct)-GLP-1(7-36);
 Gly⁸Asp¹⁷Arg^{26,34}Lys²³-(Glut-AOct)-GLP-1(7-36);

 Gly⁸Asp¹⁹Arg^{26,34}Lys²³-(Glut-AOct)-GLP-1(7-36)amide;
 Gly⁸Asp¹⁷Arg^{26,34}Lys²³-(Glut-AOct)-GLP-1(7-36);

 15
 GLP-1(7-36)amide;
 Gly⁸Asp¹⁹Arg^{26,34}Lys²³-(Glut-AOct)-GLP-1(7-37);

 15
 GLP-1(7-38); Gly⁸Asp¹⁷Arg^{26,34}Lys²³-(Glut-AOct)-GLP-1(7-37);

 16
 Glut-AOct)-GLP-1(7-38); Gly⁸Asp¹⁷Arg^{26,34}Lys²³-(Glut-AOct)-GLP-1(7-37);

 38); Thr⁸Asp³⁸Arg^{26,34}Lys³⁹-(Glut-AOct)-GLP-1(7-39);

 Arg^{28,34}Lys¹⁸-(Glut-AOct)-GLP-1(7-36);
 Arg^{28,34}Lys¹⁸-(Glut-AOct)-GLP-1(7-36)amide;

 Arg^{28,34}Lys¹⁸-(Glut-AOct)-GLP-1(7-37);
 Arg^{28,34}Lys¹⁸-(Glut-AOct)-GLP-1(7-38);

 Gly⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glut-AOct)-GLP-1(7-36);
 Gly⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Glut-AOct)-GLP-1(7-38);

 Gly⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glut-AOct)-GLP-1(7-36);
 Gly⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Glut-AOct)-GLP-1(7-36);

 GLP-1(7-36)amide;
 Gly⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glut-AOct)-GLP-1(7-37);

 Glut-AOct)-GLP-1(7-38);
 Gly⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Glut-AOct)-GLP-1(7-38);

GLP-1(7-38); Thr⁸Asp³⁸Arg^{26,34}Lys³⁹-(Glut-AOct)-GLP-1(7-39); Thr⁸Asp³⁵Arg^{26,34}Lys³⁸-(Glut-AOct)-GLP-1(7-36); Thr⁸Asp³⁵Arg^{26,34}Lys³⁸-(Glut-AOct)-GLP-1(7-36)amide; Thr⁸Asp³⁶Arg^{26,34}Lys³⁷-(Glut-AOct)-GLP-1(7-37); Thr⁸Asp³⁷Arg^{28,34}Lys³⁸-(Glut-AOct)-GLP-1(7-37); Thr⁸Asp³⁷Arg^{28,34}Lys³⁸-(Glut-AOct)-GLP-1(7-37); Thr⁸Asp³⁷Arg^{28,34}Lys³⁸-(Glut-AOct)-GLP-1(7-37); Thr⁸Asp³⁵Arg^{26,34}Lys³⁸-(Glut-AOct)-GLP-1(7-37); Thr⁸Asp³⁵Arg^{26,34}Lys³⁸-(Glut-AOct)-GLP-1(7-37); Thr⁸Asp³⁵Arg^{28,34}Lys³⁸-(Glut-AOct)-GLP-1(7-37); Thr⁸Asp³⁵Arg^{28,34}Lys³⁸-(Glut-AOct)-GLP-1(7-37); Thr⁸Asp³⁵Arg^{28,34}Lys³⁸-(Glut-AOct)-GLP-1(7-37); Thr⁸Asp³⁵Arg^{28,34}Lys³⁸-(Glut-AOct)-GLP-1(7-37); Thr⁸Asp³⁵Arg^{28,34}Lys³⁸-(Glut-AOct)-GLP-1(7-37); Thr⁸Asp³⁵Arg^{28,34}Lys³⁸-(Glut-AOct)-GLP-1(7-37); Thr⁸Asp³⁵Arg^{28,34}Lys³⁸-(Glut-AOct)-GLP-1(7-37); Thr⁸Asp³⁵Arg^{28,34}Lys³⁸-(Glut-AOct)-GLP-1(7-37); Thr⁸Asp³⁵Arg^{28,34}Lys³⁸-(Glut-AOct)-GLP-1(7-37); Thr⁸Asp³⁵Arg^{28,34}Lys³⁸-(Glut-AOct)-GLP-1(7-30); Thr⁸Asp³⁵Arg³⁶Arg^{28,34}Lys³⁸-(Glut-AOct)-GLP-1(7-30); Thr⁸Asp³⁵Arg^{28,34}Lys³⁸-(Glut-AOct)-GLP-1(7-30); Thr⁸Asp³⁵Arg³⁶Arg³

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- Arg^{26,34}Lys²³-(Glut-AOct)-GLP-1(7-36)amide; Arg^{26,34}Lys²³-(Glut-AOct)-GLP-1(7-36); Arg^{28,34}Lys²³-(Glut-AOct)-GLP-1(7-38); Arg^{26,34}Lys²³-(Glut-AOct)-GLP-1(7-37); ThrªAsp¹⁷Arg^{26,34}Lys²³-(Glut-AOct)-GLP-1(7-Thr⁸Asp¹⁹Arg^{26,34}Lys²³-(Glut-AOct)-GLP-1(7-36); 36); Thr^aAsp¹⁹Arg^{26,34}Lys²³-(Glut-AOct)-GLP-1(7-36)amide; Thr^aAsp¹⁷Arg^{26,34}Lys²³-(Glut-AOct)-
- Arg^{26,34}Lys¹⁸-(Glut-AOct)-GLP-1(7-36)amide; Arg^{26,34}Lys¹⁸-(Glut-AOct)-GLP-1(7-36); 25 Arg^{26,34}Lys¹⁸-(Glut-AOct)-GLP-1(7-38); Arg^{26,34}Lys¹⁸-(Glut-AOct)-GLP-1(7-37); Thr⁸Asp¹⁸Arg^{28,34}Lys¹⁸-(Glut-AOct)-GLP-1(7-36); Thr⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Glut-AOct)-GLP-1(7-36); Thr^aAsp¹⁹Arg^{26,34}Lys¹⁸-(Glut-AOct)-GLP-1(7-36)amide; Thr^aAsp¹⁷Arg^{26,34}Lys¹⁸-(Glut-AOct)-GLP-1(7-36) amide; Thr⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glut-AOct)-GLP-1(7-37); Thr⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glut-AOct)-GLP-1(7-38); Thr⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Glut-AOct)-GLP-1(7-38); 30
- Arg^{28,34}Lys²⁷-(Glut-AOct)-GLP-1(7-36)amide; Arg^{26,34}Lys²⁷-(Glut-AOct)-GLP-1(7-36); Arg^{26,34}Lys²⁷-(Glut-AOct)-GLP-1(7-38); Arg^{26,34}Lys²⁷-(Glut-AOct)-GLP-1(7-37); 20 Ser⁸Asp¹⁹Arg^{28,34}Lys²⁷-(Glut-AOct)-GLP-1(7-36); Ser⁸Asp¹⁷Arg^{28,34}Lys²⁷-(Glut-AOct)-GLP-1(7-36); Ser⁸Asp¹⁹Arg^{28,34}Lys²⁷-(Glut-AOct)-GLP-1(7-36)amide; Ser⁸Asp¹⁷Arg^{28,34}Lys²⁷-(Glut-AOct)-GLP-1(7-36) amide; Ser⁸ Asp¹⁹ Arg^{26,34} Lys²⁷-(Glut-AOct)-GLP-1(7-37); Ser⁸ Asp¹⁹ Arg^{26,34} Lys²⁷-(Glut-AOct)-GLP-1(7-38); Ser⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Glut-AOct)-GLP-1(7-38);
- Arg^{26,34}Lys²³-(Glut-AOct)-GLP-1(7-36)amide; Arg^{26,34}Lys²³-(Glut-AOct)-GLP-1(7-36); Arg^{26,34}Lys²³-(Glut-AOct)-GLP-1(7-38); Arg^{26,34}Lys²³-(Glut-AOct)-GLP-1(7-37); Ser⁸Asp¹⁹Arg^{28,34}Lys²³-(Glut-AOct)-GLP-1(7-36); Ser⁸Asp¹⁷Arg^{28,34}Lys²³-(Glut-AOct)-GLP-1(7-15 36); Ser⁸Asp¹⁹Arg^{28,34}Lys²³-(Glut-AOct)-GLP-1(7-36)amide; Ser⁸Asp¹⁷Arg^{28,34}Lys²³-(Glut-AOct)-GLP-1(7-36) amide; Ser⁸ Asp¹⁹ Arg^{26,34} Lys²³-(Glut-AOct)-GLP-1(7-37); Ser⁸ Asp¹⁹ Arg^{26,34} Lys²³-(Glut-AOct)-GLP-1(7-38); Ser⁸Asp¹⁷Arg^{26,34}Lys²³-(Glut-AOct)-GLP-1(7-38);
- (Glut-AOct)-GLP-1(7-38); Val⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Glut-AOct)-GLP-1(7-38); Arg^{26.34}Lys¹⁸-(Glut-AOct)-GLP-1(7-36)amide; Arg^{26,34}Lys¹⁸-(Glut-AOct)-GLP-1(7-36); Arg^{26,34}Lys¹⁸-(Glut-AOct)-GLP-1(7-38); Arg^{26,34}Lys¹⁸-(Glut-AOct)-GLP-1(7-37); Ser⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Glut-AOct)-GLP-1(7-Ser^aAsp¹⁹Arg^{28,34}Lys¹⁸-(Glut-AOct)-GLP-1(7-36); 36); Ser⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glut-AOct)-GLP-1(7-36)amide; Ser⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Glut-AOct)-10 GLP-1(7-36) amide; Ser⁸ Asp¹⁹ Arg^{26,34} Lys¹⁸-(Glut-AOct)-GLP-1(7-37); Ser⁸ Asp¹⁹ Arg^{26,34} Lys¹⁸-(Glut-AOct)-GLP-1(7-38); Ser⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Glut-AOct)-GLP-1(7-38);
- Arg^{28,34}Lys²⁷-(Glut-AOct)-GLP-1(7-36)amide; Arg^{26,34}Lys²⁷-(Glut-AOct)-GLP-1(7-36); Arg^{28,34}Lys²⁷-(Glut-AOct)-GLP-1(7-38); Arg^{26,34}Lys²⁷-(Glut-AOct)-GLP-1(7-37); Val⁸Asp¹⁷Arg^{26.34}Lys²⁷-(Glut-AOct)-GLP-1(7-Val⁸Asp¹⁹Arg^{28,34}Lys²⁷-(Glut-AOct)-GLP-1(7-36); 36); Val[®]Asp^{1®}Arg^{28,34}Lys²⁷-(Glut-AOct)-GLP-1(7-36)amide; Val[®]Asp¹⁷Arg^{28,34}Lys²⁷-(Glut-AOct)-GLP-1(7-36) amide; Val[®]Asp^{1®}Arg^{28,34}Lys²⁷-(Glut-AOct)-GLP-1(7-37); Val[®]Asp^{1®}Arg^{28,34}Lys²⁷-5

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Val⁸Arg³⁴Lys²⁶-(Glut-ALit)-GLP-1(7-38)
 30 Val⁸Arg²⁶Lys³⁴-(Glut-ALit)-GLP-1(7-39);
 Val⁸Arg²⁶Lys³⁹-(Glut-ALit)-GLP-1(7-39);
 Ser⁸Arg²⁶Lys³⁴-(Glut-ALit)-GLP-1(7-36);
 Ser⁸Arg²⁴Lys²⁶-(Glut-ALit)-GLP-1(7-36);
 Ser⁸Arg³⁴Lys²⁶-(Glut-ALit)-GLP-1(7-36);

- Val⁸Arg^{26,34}Lys³⁶-(Glut-ALit)-GLP-1(7-36);
 Val⁸Arg^{26,34}Lys³⁶-(Glut-ALit)-GLP-1(7-36)amide;
 Val⁸Arg²⁶Lys³⁴-(Glut-ALit)-GLP-1(7-37);
 Val⁸Arg^{26,34}Lys³⁶-(Glut-ALit)-GLP-1(7-37);
 Val⁸Arg^{26,34}Lys²⁶-(Glut-ALit)-GLP-1(7-38)
- Gly⁸Arg^{26,34}Lys³⁶-(Glut-ALit)-GLP-1(7-37); Gly⁸Arg²⁶Lys²⁶-(Glut-ALit)-GLP-1(7-38) Gly⁸Arg²⁶Lys³⁴-(Glut-ALit)-GLP-1(7-39); Gly⁸Arg^{26,34}Lys³⁹-(Glut-ALit)-GLP-1(7-39); Val⁸Arg²⁶Lys³⁴-(Glut-ALit)-GLP-1(7-36);
- Gly⁸Arg²⁶Lys³⁴-(Glut-ALit)-GLP-1(7-36); Gly⁸Arg^{26,34}Lys³⁶-(Glut-ALit)-GLP-1(7-36); Gly⁸Arg³⁴Lys²⁶-(Glut-ALit)-GLP-1(7-36)amide; Gly⁸Arg²⁶Lys³⁴-(Glut-ALit)-GLP-1(7-37);

Ser⁸Arg³⁴Lys²⁶-(Glut-ALit)-GLP-1(7-36); Ser⁸Arg²⁶Lys³⁴-(Glut-ALit)-GLP-1(7-36)amide; Ser⁸Arg^{26,34}Lys³⁸-(Glut-ALit)-GLP-1(7-36)amide;

Val⁸Arg³⁴Lys²⁸-(Glut-ALit)-GLP-1(7-36); Val⁸Arg²⁸Lys³⁴-(Glut-ALit)-GLP-1(7-36)amide; Val⁸Arg^{26,34}Lys³⁶-(Glut-ALit)-GLP-1(7-36)amide; Val⁸Arg³⁴Lys²⁶-(Glut-ALit)-GLP-1(7-37); Val⁸Arg²⁶Lys³⁴-(Glut-ALit)-GLP-1(7-38); Val⁸Arg^{28,34}Lys³⁸-(Glut-ALit)-GLP-1(7-38); Val⁸Arg³⁴Lys²⁸-(Glut-ALit)-GLP-1(7-39);

Gly⁸Arg³⁴Lys²⁸-(Glut-ALit)-GLP-1(7-36); Gly⁸Arg²⁶Lys³⁴-(Glut-ALit)-GLP-1(7-36)amide; Gly⁸Arg^{26,34}Lys³⁸-(Glut-ALit)-GLP-1(7-36)amide; Gly⁸Arg³⁴Lys²⁸-(Glut-ALit)-GLP-1(7-37); Gly⁸Arg²⁶Lys³⁴-(Glut-ALit)-GLP-1(7-38); Gly⁸Arg^{28,34}Lys³⁸-(Glut-ALit)-GLP-1(7-39);

15 GLP-1(7-39);

Arg²⁶Lys³⁴-(Glut-ALit)-GLP-1(7-36); Arg³⁴Lys²⁶-(Glut-ALit)-GLP-1(7-36); Arg^{26,34}Lys³⁶-(Glut-ALit) GLP-1(7-36); Arg²⁶Lys³⁴-(Glut-ALit)-GLP-1(7-36)amide; Arg³⁴ Lys²⁶-(Glut-ALit)-GLP-1(7-37);
 36)amide; Arg^{28,34}Lys³⁸-(Glut-ALit)-GLP-1(7-36)amide; Arg²⁶ Lys³⁴-(Glut-ALit)-GLP-1(7-37);
 Arg³⁴Lys²⁶-(Glut-ALit)-GLP-1(7-37); Arg^{26,34}Lys³⁶-(Glut-ALit)-GLP-1(7-37); Arg^{26,34}Lys²⁸-(Glut-ALit)-GLP-1(7-37);
 Arg²⁶Lys³⁴-(Glut-ALit)-GLP-1(7-37); Arg^{26,34}Lys³⁶-(Glut-ALit)-GLP-1(7-38);
 Arg²⁶Lys³⁴-(Glut-ALit)-GLP-1(7-39); Arg³⁴Lys²⁶-(Glut-ALit)-GLP-1(7-39); Arg^{28,34}Lys³⁹-(Glut-ALit)-

 Arg^{24,34}Lys²⁷-(Glut-AOct)-GLP-1(7-37);
 Arg^{24,34}Lys²⁷-(Glut-AOct)-GLP-1(7-38);

 Thr⁸Asp¹⁹Arg^{28,34}Lys²⁷-(Glut-AOct)-GLP-1(7-36);
 Thr⁸Asp¹⁷Arg^{28,34}Lys²⁷-(Glut-AOct)-GLP-1(7-36);

 36);
 Thr⁸Asp¹⁹Arg^{28,34}Lys²⁷-(Glut-AOct)-GLP-1(7-36);
 Thr⁸Asp¹⁷Arg^{28,34}Lys²⁷-(Glut-AOct)-GLP-1(7-36);

 GLP-1(7-36)amide;
 Thr⁸Asp¹⁹Arg^{28,34}Lys²⁷-(Glut-AOct)-GLP-1(7-36);
 Thr⁸Asp¹⁹Arg^{28,34}Lys²⁷-(Glut-AOct)-GLP-1(7-37);

(Glut-AOct)-GLP-1(7-38); Thr⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Glut-AOct)-GLP-1(7-38);

 (Glut-AOct)-GLP-1(7-38); Thr⁸Asp¹⁷Arg^{28,34}Lys²⁷-(Glut-AOct)-GLP-1(7-38);

 Arg^{28,34}Lys²⁷-(Glut-AOct)-GLP-1(7-36);

 Arg^{28,34}Lys²⁷-(Glut-AOct)-GLP-1(7-36);

 Arg^{28,34}Lys²⁷-(Glut-AOct)-GLP-1(7-36);

 Arg^{28,34}Lys²⁷-(Glut-AOct)-GLP-1(7-36);

 Arg^{28,34}Lys²⁷-(Glut-AOct)-GLP-1(7-37);

76 GLP-1(7-36)amide; Thr⁸Asp¹⁹Arg^{28,34}Lys²³-(Glut-AOct)-GLP-1(7-37); Thr⁸Asp¹⁹Arg^{26,34}Lys²³-

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GLP-1(7-39); Val8Asp35Arg26.34Lys36-(Glut-ALit)-GLP-1(7-Val⁸Asp³⁵Arg^{26,34}Lys³⁶-(Glut-ALit)-GLP-1(7-36); 36)amide; Val[®]Asp³⁶Arg^{28,34}Lys³⁷-(Glut-ALit)-GLP-1(7-37); Val[®]Asp³⁷Arg^{26,34}Lys³⁸-(Glut-ALit)-GLP-1(7-38); Val⁸Asp³⁸Arg^{26,34}Lys³⁹-(Glut-ALit)-GLP-1(7-39); Val⁸Asp³⁵Arg^{26,34}Lys³⁶-(Glut-ALit)-

- Val⁸Glu³⁵Arg^{26,34}Lys³⁶-(Glut-ALit)-GLP-1(7-Val⁸Glu³⁵Arg^{26,34}Lys³⁶-(Glut-ALit)-GLP-1(7-36); 36)amide; Val⁸Glu³⁸Arg^{26,34}Lys³⁷-(Glut-ALit)-GLP-1(7-37); Val⁸Glu³⁷Arg^{26,34}Lys³⁸-(Glut-ALit)-GLP-1(7-38); Val⁸Glu³⁸Arg^{26,34}Lys³⁹-(Glut-ALit)-GLP-1(7-39); Val⁸Glu³⁵Arg^{26,34}Lys³⁶-(Glut-ALit)-GLP-1(7-36); Val⁸Glu³⁵Arg^{26,34}Lys³⁶-(Glut-ALit)-GLP-1(7-36)amide; Val⁸Glu³⁶Arg^{26,34}Lys³⁷-(Glut-ALit)-GLP-1(7-37); Val⁸Glu³⁷Arg^{26,34}Lys³⁸-(Glut-ALit)-GLP-1(7-38); Val⁸Glu³⁸Arg^{26,34}Lys³⁹-(Glut-ALit)-30
- Gly8Asp35Arg26,34Lys36-(Glut-ALit)-GLP-1(7-Gly⁸Asp³⁵Arg^{26,34}Lys³⁶-(Glut-ALit)-GLP-1(7-36); 20 36)amide; Gly⁸Asp³⁶Arg^{26,34}Lys³⁷-(Glut-ALit)-GLP-1(7-37); Gly⁸Asp³⁷Arg^{26,34}Lys³⁸-(Glut-ALit)-GLP-1(7-38); Gly⁸Asp³⁸Arg^{26,34}Lys³⁹-(Glut-ALit)-GLP-1(7-39); Gly⁸Asp³⁵Arg^{26,34}Lys³⁶-(Glut-ALit)-GLP-1(7-36); Gly⁸Asp³⁵Arg^{26,34}Lys³⁶-(Glut-ALit)-GLP-1(7-36)amide; Gly⁸Asp³⁶Arg^{26,34}Lys³⁷-(Glut-ALit)-GLP-1(7-37); Gly⁸Asp³⁷Arg^{26,34}Lys³⁸-(Glut-ALit)-GLP-1(7-38); Gly⁸Asp³⁸Arg^{26,34}Lys³⁹-(Glut-ALit)-GLP-1(7-39); 25
- Gly8Glu35Arg26,34Lys36-(Glut-ALit)-GLP-1(7-Gly⁸Glu³⁵Arg^{26,34}Lys³⁶-(Glut-ALit)-GLP-1(7-36); Gly8Glu36Arg26.34Lys37-(Glut-ALit)-GLP-1(7-37); Gly8Glu37Arg26.34Lys38-(Glut-ALit)-36)amide; 15 GLP-1(7-38); Gly8Glu38Arg26.34Lys39-(Glut-ALit)-GLP-1(7-39); Gly8Glu35Arg26.34Lys38-(Glut-ALit)-GLP-1(7-36); Gly⁸Glu³⁶Arg^{26,34}Lys³⁶-(Glut-ALit)-GLP-1(7-36)amide; Gly⁸Glu³⁶Arg^{26,34}Lys³⁷-(Glut-ALit)-GLP-1(7-37); Gly⁸Glu³⁷Arg^{26,34}Lys³⁸-(Glut-ALit)-GLP-1(7-38); Gly⁸Glu³⁸Arg^{26,34}Lys³⁹-(Glut-ALit)-GLP-1(7-39);

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- Thr⁸Arg³⁴Lys²⁶-(Glut-ALit)-GLP-1(7-36)amide; Thr8Arg26Lys34-(Glut-ALit)-GLP-1(7-37); Thr⁸Arg^{26.34}Lys³⁶-(Glut-ALit)-GLP-1(7-37); 10 Thr⁸Arg³⁴Lys²⁶-(Glut-ALit)-GLP-1(7-38) Thr^aArg²⁶Lys³⁴-(Glut-ALit)-GLP-1(7-39); Thr8Arg26,34Lys39-(Glut-ALit)-GLP-1(7-39);
- Ser⁸Arg³⁴Lys²⁶-(Glut-ALit)-GLP-1(7-38) Ser^aArg²⁶Lys³⁴-(Glut-ALit)-GLP-1(7-39); Ser⁸Arg^{26,34}Lys³⁹-(Glut-ALit)-GLP-1(7-39); 5 Thr^aArg²⁶Lys³⁴-(Glut-ALit)-GLP-1(7-36); Thr⁸Arg^{26,34}Lys³⁶-(Glut-ALit)-GLP-1(7-36);
- Ser^aArg²⁶Lys³⁴-(Glut-ALit)-GLP-1(7-37); Ser⁸Arg^{26,34}Lys³⁸-(Glut-ALit)-GLP-1(7-37);

Thr⁸Arg³⁴Lys²⁶-(Glut-ALit)-GLP-1(7-36); Thr^aArg²⁶Lys³⁴-(Glut-ALit)-GLP-1(7-36)amide; Thr^aArg^{26,34}Lys³⁶-(Glut-ALit)-GLP-1(7-36)amide; Thr⁸Arg³⁴Lys²⁶-(Glut-ALit)-GLP-1(7-37); Thr⁸Arg²⁶Lys³⁴-(Glut-ALit)-GLP-1(7-38); Thr⁸Arg^{26,34}Lys³⁸-(Glut-ALit)-GLP-1(7-38); Thr⁸Arg³⁴Lys²⁶-(Glut-ALit)-GLP-1(7-39);

Ser⁸Arg³⁴Lys²⁶-(Glut-ALit)-GLP-1(7-37); Ser^aArg²⁶Lys³⁴-(Glut-ALit)-GLP-1(7-38); Ser⁸Arg^{26,34}Lys³⁸-(Glut-ALit)-GLP-1(7-38); Ser⁸Arg³⁴Lys²⁶-(Glut-ALit)-GLP-1(7-39);

(Glut-ALit)-GLP-1(7-37); Arg^{26,34}Lys¹⁸-(Glut-ALit)-GLP-1(7-38); Gly⁸Asp¹⁹Arg^{28,34}Lys¹⁸-(Glut-ALit)-GLP-1(7-36); Gly⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Glut-ALit)-GLP-1(7-36); Gly⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glut-30 ALit)-GLP-1(7-36)amide; Gly⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Glut-ALit)-GLP-1(7-36)amide; Gly⁸Asp¹⁹Arg^{28,34}Lys¹⁸-(Glut-ALit)-GLP-1(7-37); Gly⁸Asp¹⁹Arg^{28,34}Lys¹⁸-(Glut-ALit)-GLP-1(7-38); Gly⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Glut-ALit)-GLP-1(7-38);

Arg^{28,34}Lys¹⁸-(Glut-ALit)-GLP-1(7-36); Arg^{26,34}Lys¹⁸-(Glut-ALit)-GLP-1(7-36)amide; Arg^{26,34}Lys¹⁸-

- Thr⁸Asp³⁵Arg^{26,34}Lys³⁶-(Glut-ALit)-GLP-1(7-36); 36)amide; Thr⁸Asp³⁸Arg^{26,34}Lys³⁷-(Glut-ALit)-GLP-1(7-37); Thr⁸Asp³⁷Arg^{26,34}Lys³⁸-(Glut-ALit)-GLP-1(7-38); Thr⁸Asp³⁸Arg^{26,34}Lys³⁹-(Glut-ALit)-GLP-1(7-39); Thr⁸Asp³⁵Arg^{26,34}Lys³⁸-(Glut-ALit)-GLP-1(7-36); Thr⁸Asp³⁵Arg^{26,34}Lys³⁶-(Glut-ALit)-GLP-1(7-36)amide; Thr⁸Asp³⁶Arg^{26,34}Lys³⁷-(Glut-25 ALit)-GLP-1(7-37); Thr⁸Asp³⁷Arg^{26,34}Lys³⁸-(Glut-ALit)-GLP-1(7-38); Thr⁸Asp³⁸Arg^{26,34}Lys³⁹-(Glut-ALit)-GLP-1(7-39);
- ALit)-GLP-1(7-39); 15 Thr⁸Glu³⁵Arg^{26,34}Lys³⁶-(Glut-ALit)-GLP-1(7-36); Thr⁸Glu³⁵Arg^{28,34}Lys³⁶-(Glut-ALit)-GLP-1(7-Thr⁸Glu³⁶Arg^{28,34}Lys³⁷-(Glut-ALit)-GLP-1(7-37); Thr⁸Glu³⁷Arg^{28,34}Lys³⁸-(Glut-ALit)-36)amide: GLP-1(7-38); Thr^aGlu³⁸Arg^{26,34}Lys³⁹-(Glut-ALit)-GLP-1(7-39); Thr^aGlu³⁵Arg^{26,34}Lys³⁸-(Glut-ALit)-GLP-1(7-36); Thr⁸Glu³⁵Arg^{26,34}Lys³⁶-(Glut-ALit)-GLP-1(7-36)amide; Thr⁸Glu³⁶Arg^{26,34}Lys³⁷-(Glut-ALit)-GLP-1(7-37); Thr⁸Glu³⁷Arg^{26,34}Lys³⁸-(Glut-ALit)-GLP-1(7-38); Thr⁸Glu³⁸Arg^{26,34}Lys³⁹-(Glut-20
- Ser⁸Asp³⁵Arg^{26,34}Lys³⁶-(Glut-ALit)-GLP-1(7-36); Ser⁸Asp³⁵Arg^{26,34}Lys³⁶-(Glut-ALit)-GLP-1(7-10 36)amide; Ser⁸Asp³⁸Arg^{26,34}Lys³⁷-(Glut-ALit)-GLP-1(7-37); Ser⁸Asp³⁷Arg^{26,34}Lys³⁸-(Glut-ALit)-GLP-1(7-38); Ser⁸Asp³⁸Arg^{26,34}Lys³⁹-(Glut-ALit)-GLP-1(7-39); Ser⁸Asp³⁵Arg^{26,34}Lys³⁸-(Glut-ALit)-GLP-1(7-36); Ser⁸Asp³⁵Arg^{26,34}Lys³⁶-(Glut-ALit)-GLP-1(7-36)amide; Ser⁸Asp³⁶Arg^{26,34}Lys³⁷-(Glut-ALit)-GLP-1(7-37); Ser⁸Asp³⁷Arg^{26,34}Lys³⁸-(Glut-ALit)-GLP-1(7-38); Ser⁸Asp³⁸Arg^{26,34}Lys³⁹-(Glut-
- Ser⁸Glu³⁵Arg^{26,34}Lys³⁶-(Glut-ALit)-GLP-1(7-36); Ser⁸Glu³⁵Arg^{26,34}Lys³⁶-(Glut-ALit)-GLP-1(7-36)amide; Ser⁸Glu³⁶Arg^{26,34}Lys³⁷-(Glut-ALit)-GLP-1(7-37); Ser⁸Glu³⁷Arg^{26,34}Lys³⁸-(Glut-ALit)-5 GLP-1(7-38); Ser^aGlu³⁸Arg^{28,34}Lys³⁹-(Glut-ALit)-GLP-1(7-39); Ser^aGlu³⁵Arg^{26,34}Lys³⁸-(Glut-ALit)-GLP-1(7-36); Ser⁸Glu³⁵Arg^{26,34}Lys³⁶-(Glut-ALit)-GLP-1(7-36)amide; Ser⁸Glu³⁶Arg^{26,34}Lys³⁷-(Glut-ALit)-GLP-1(7-37); Ser⁸Glu³⁷Arg^{28,34}Lys³⁸-(Glut-ALit)-GLP-1(7-38); Ser⁸Glu³⁸Arg^{28,34}Lys³⁹-(Glut-ALit)-GLP-1(7-39);
- GLP-1(7-36); Val[®]Asp³⁵Arg^{28,34}Lys³⁶-(Glut-ALit)-GLP-1(7-36)amide; Val[®]Asp³⁶Arg^{28,34}Lys³⁷-(Glut-ALit)-GLP-1(7-37); Val⁸Asp³⁷Arg^{28,34}Lys³⁸-(Glut-ALit)-GLP-1(7-38); Val⁸Asp³⁸Arg^{28,34}Lys³⁹-(Glut-ALit)-GLP-1(7-39);

ALit)-GLP-1(7-39);

Thr⁸Asp³⁵Arg^{26,34}Lys³⁶-(Glut-ALit)-GLP-1(7-

- Val⁸Asp¹⁷Arg^{28,34}Lys²⁷-(Glut-ALit)-GLP-1(7-38);
 Arg^{28,34}Lys¹⁸-(Glut-ALit)-GLP-1(7-36); Arg^{28,34}Lys¹⁸-(Glut-ALit)-GLP-1(7-36)amide; Arg^{28,34}Lys¹⁸-(Glut-ALit)-GLP-1(7-36); Ser⁸Asp¹⁹Arg^{28,34}Lys¹⁸-(Glut-ALit)-GLP-1(7-36); Ser⁸Asp¹⁹Arg^{28,34}Lys¹⁸-(Glut-ALit)-GLP-1(7-36); Ser⁸Asp¹⁹Arg^{28,34}Lys¹⁸-(Glut-ALit)-GLP-1(7-36); Ser⁸Asp¹⁹Arg^{28,34}Lys¹⁸-(Glut-ALit)-GLP-1(7-36); Ser⁸Asp¹⁹Arg^{28,34}Lys¹⁸-(Glut-ALit)-GLP-1(7-36); Ser⁸Asp¹⁹Arg^{28,34}Lys¹⁸-(Glut-ALit)-GLP-1(7-36); Ser⁸Asp¹⁹Arg^{28,34}Lys¹⁸-(Glut-ALit)-GLP-1(7-36); Ser⁸Asp¹⁹Arg^{28,34}Lys¹⁸-(Glut-ALit)-GLP-1(7-36); Ser⁸Asp¹⁹Arg^{28,34}Lys¹⁸-(Glut-ALit)-GLP-1(7-36); Ser⁸Asp¹⁹Arg^{28,34}Lys¹⁸-(Slut-ALit)-GLP-1(7-36)amide; Ser⁸Asp¹⁷Arg^{28,34}Lys¹⁸-(Glut-ALit)-GLP-1(7-36)amide; Ser⁸Asp¹⁷Arg^{28,34}Lys¹⁸-(Slut-ALit)-GLP-1(7-36)amide; Ser⁸Asp¹⁷Arg^{28,34}Lys¹⁸-(Slut-ALit)-GLP-1(7-36)amide; Ser⁸Asp¹⁹Arg^{28,34}Lys¹⁸-(Slut-ALit)-GLP-1(7-36)amide; Ser⁸Asp¹⁷Arg^{28,34}Lys¹⁸-(Slut-ALit)-GLP-1(7-36)amide; Ser⁸Asp¹⁷Arg^{28,34}Lys¹⁸-(Slut-ALit)-GLP-1(7-36)amide; Ser⁸Asp¹⁷Arg^{28,34}Lys¹⁸-(Slut-ALit)-GLP-1(7-36)amide; Ser⁸Asp¹⁷Arg^{28,34}Lys¹⁸-(Slut-ALit)-GLP-1(7-36)amide; Ser⁸Asp¹⁹Arg^{28,34}Lys¹⁸-(Slut-ALit)-GLP-1(7-36)amide; Ser⁸Asp¹⁷Arg^{28,34}Lys¹⁸-(Slut-ALit)-GLP-1(7-36)amide; Ser⁸Asp¹⁷Arg^{28,34}Lys¹⁸-(Slut-ALit)-GLP-1(7-36)amide; Ser⁸Asp¹⁷Arg^{28,34}Lys¹⁸-(Slut-ALit)-GLP-1(7-36)amide; Ser⁸Asp¹⁷Arg^{28,34}Lys¹⁸-(Slut-ALit)-Slut-ALit)-Slut-Su¹⁸-(Slut-ALit)-Slut-Su¹⁸-(Slut-ALit)-Slut-Su¹⁸-(Slut-ALit)-Slut-Su¹⁸-(Slut-ALit)-Slut-Su¹⁸-(Slut-ALit)-Slut-Su¹⁸-(Slut-ALit)-Slut-Su¹⁸-(Slut-ALit)-Slut-Su¹⁸-(Slut-ALit)-Slut-Su¹⁸-(Slut-Su¹⁸-(Slut-Su¹⁸-(Slut-Su¹⁸-Su¹⁸-(Slut-Su¹⁸
- 25 Arg^{26,34}Lys²⁷-(Glut-ALit)-GLP-1(7-36); Arg^{26,34}Lys²⁷-(Glut-ALit)-GLP-1(7-36)amide; Arg^{26,34}Lys²⁷-(Glut-ALit)-GLP-1(7-38); Val⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glut-ALit)-GLP-1(7-36); Val⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glut-ALit)-GLP-1(7-36); Val⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glut-ALit)-GLP-1(7-36)amide; Val⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glut-ALit)-GLP-1(7-36)amide; Val⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glut-ALit)-GLP-1(7-36); Val⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glut-ALit)-GLP-1(7-36)amide; Val⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glut-ALit)-GLP-1(7-38); Val⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glut-ALit)-GLP-1(
- Val⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Glut-ALit)-GLP-1(7-38); Arg^{26,34}Lys²³-(Glut-ALit)-GLP-1(7-36); Arg^{26,34}Lys²³-(Glut-ALit)-GLP-1(7-36)amide; Arg^{26,34}Lys²³-(Glut-ALit)-GLP-1(7-37); Arg^{26,34}Lys²³-(Glut-ALit)-GLP-1(7-38); Val⁸Asp¹⁹Arg^{26,34}Lys²³-(Glut-ALit)-GLP-1(7-36); Val⁸Asp¹⁷Arg^{26,34}Lys²³-(Glut-ALit)-GLP-1(7-36); Val⁸Asp¹⁹Arg^{26,34}Lys²³-(Glut-ALit)-GLP-1(7-36)amide; Val⁸Asp¹⁷Arg^{26,34}Lys²³-(Glut-ALit)-GLP-1(7-36); Val⁸Asp¹⁹Arg^{26,34}Lys²³-(Glut-ALit)-GLP-1(7-36)amide; Val⁸Asp¹⁷Arg^{26,34}Lys²³-(Glut-ALit)-GLP-1(7-36)amide; Val⁸Asp¹⁹Arg^{26,34}Lys²³-(Glut-ALit)-GLP-1(7-37); Val⁸Asp¹⁹Arg^{26,34}Lys²³-(Glut-ALit)-GLP-1(7-38); Val⁸Asp¹⁷Arg^{26,34}Lys²³-(Glut-ALit)-GLP-1(7-38);
- Gly⁸Asp¹⁷Arg^{28,34}Lys²⁷-(Glut-ALit)-GLP-1(7-38); Arg^{26,34}Lys¹⁸-(Glut-ALit)-GLP-1(7-36); Arg^{26,34}Lys¹⁸-(Glut-ALit)-GLP-1(7-36)amide; Arg^{28,34}Lys¹⁸-(Glut-ALit)-GLP-1(7-37); Arg^{28,34}Lys¹⁸-(Glut-ALit)-GLP-1(7-38); Val⁸Asp¹⁹Arg^{28,34}Lys¹⁸-(Glut-ALit)-GLP-1(7-36); Val⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Glut-ALit)-GLP-1(7-36); Val⁸Asp¹⁹Arg^{28,34}Lys¹⁸-(Glut-ALit)-GLP-1(7-36)amide; Val⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Glut-ALit)-GLP-1(7-36); Val⁸Asp¹⁹Arg^{28,34}Lys¹⁸-(Glut-ALit)-GLP-1(7-36)amide; Val⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Glut-ALit)-GLP-1(7-36)amide; Val⁸Asp¹⁹Arg^{28,34}Lys¹⁸-(Glut-ALit)-GLP-1(7-38); Val⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glut-ALit)-GLP-1(7-38); Va
- Gly⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Glut-ALit)-GLP-1(7-38); Arg^{26,34}Lys²⁷-(Glut-ALit)-GLP-1(7-36); Arg^{26,34}Lys²⁷-(Glut-ALit)-GLP-1(7-36)amide; Arg^{26,34}Lys²⁷-(Glut-ALit)-GLP-1(7-37); Arg^{26,34}Lys²⁷-(Glut-ALit)-GLP-1(7-38); Gly⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glut-ALit)-GLP-1(7-36); Gly⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Glut-ALit)-GLP-1(7-36); Gly⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glut-10 ALit)-GLP-1(7-36)amide; Gly⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Glut-ALit)-GLP-1(7-36); Gly⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glut-Gly⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glut-ALit)-GLP-1(7-37); Gly⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glut-ALit)-GLP-1(7-38);
- Arg^{26,34}Lys²⁵-(Glut-ALit)-GLP-1(7-36); Arg^{26,34}Lys²⁵-(Glut-ALit)-GLP-1(7-36)amide; Arg^{26,34}Lys²⁵-(Glut-ALit)-GLP-1(7-36); Gly⁸Asp¹⁹Arg^{26,34}Lys²⁵-(Glut-ALit)-GLP-1(7-36); Gly⁸Asp¹⁹Arg^{26,34}Lys²⁵-(Glut-ALit)-GLP-1(7-38); Gly⁸Asp¹⁹Arg^{26,34}Lys²⁵-(Glut-ALit)-GLP-1(7-

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Arg²⁶Lys³⁴-(Aspa-ADod)-GLP-1(7-36); Arg³⁴Lys²⁶-(Aspa-ADod)-GLP-1(7-36); Arg^{28,34}Lys³⁶-(Aspa-ADod)-GLP-1(7-36); Arg²⁶Lys³⁴-(Aspa-ADod)-GLP-1(7-36)amide; Arg³⁴ Lys²⁶-(Aspa-

- ALit)-GLP-1(7-36); Thr⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Glut-ALit)-GLP-1(7-36); Thr⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glut-ALit)-GLP-1(7-36)amide; Thr⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glut-ALit)-GLP-1(7-37); Thr⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glut-ALit)-GLP-1(7-38); Thr⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Glut-ALit)-GLP-1(7-38);
- ALit)-GLP-1(7-36); Thr⁸Asp¹⁷Arg^{28,34}Lys²³-(Glut-ALit)-GLP-1(7-36); Thr⁸Asp¹⁹Arg^{28,34}Lys²³-(Glut-ALit)-GLP-1(7-36)amide; ALit)-GLP-1(7-36)amide; Thr⁸Asp¹⁹Arg^{28,34}Lys²³-(Glut-ALit)-GLP-1(7-36)amide; Thr⁸Asp¹⁹Arg^{26,34}Lys²³-(Glut-ALit)-GLP-1(7-38); Thr⁸Asp¹⁷Arg^{26,34}Lys²³-(Glut-ALit)-GLP-1(7-38); Thr⁸Asp¹⁷Arg^{26,34}Lys²³-(Glut-ALit)-GLP-1(7-36)amide; Arg^{26,34}Lys²⁷-(Glut-ALit)-GLP-1(7-36); Thr⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glut-ALit)-GLP-1(7-36); Thr⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glut-ALit)-GLP-1(7-36); Thr⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glut-ALit)-GLP-1(7-36); Thr⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glut-ALit)-GLP-1(7-36); Thr⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glut-ALit)-GLP-1(7-37); Arg^{26,34}Lys²⁷-(Glut-ALit)-GLP-1(7-38); Thr⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glut-ALit)-GLP-1(7-38); Thr⁸Asp¹⁹Arg^{26,}
- (Glut-ALit)-GLP-1(7-37); Arg^{26,34}Lys¹⁸-(Glut-ALit)-GLP-1(7-38); InFAsp¹⁹Arg^{26,34}Lys¹⁸-(Glut-ALit)-GLP-1(7-36); Thr⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glut-ALit)-GLP-1(7-36)amide; Thr⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glut-ALit)-GLP-1(7-36)amide; Thr⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glut-ALit)-GLP-1(7-36); Thr⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glut-ALit)-GLP-1(7-38);
 Thr⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Glut-ALit)-GLP-1(7-38); Arg^{26,34}Lys²³-(Glut-ALit)-GLP-1(7-36)amide; Arg^{26,34}Lys²³-(Glut-ALit)-GLP-1(7-36); Thr⁸Asp¹⁹Arg^{26,34}Lys²³-(Glut-ALit)-GLP-1(7-36); Arg^{26,34}Lys²³-(Glut-ALit)-GLP-1(7-36); Thr⁸Asp¹⁹Arg^{26,34}Lys²³-(Glut-ALit)-GLP-1(7-36); Thr⁸Asp¹⁹Arg^{26,34}Lys²³-(Glut-ALit)-GLP-1(7-37); Arg^{26,34}Lys²³-(Glut-ALit)-GLP-1(7-38); Thr⁸Asp¹⁹Arg^{26,34}Lys²³-(Glut-ALit)-GLP-1(7-37); Arg^{26,34}Lys²³-(Glut-ALit)-GLP-1(7-38); Thr⁸Asp¹⁹Arg^{26,34}Lys²³-(Glut-ALit)-GLP-1(7-37); Arg^{26,34}Lys²³-(Glut-ALit)-GLP-1(7-38); Thr⁸Asp¹⁹Arg^{26,34}Lys²³-(Glut-ALit)-GLP-1(7-37); Arg^{26,34}Lys²³-(Glut-ALit)-GLP-1(7-38); Thr⁸Asp¹⁹Arg^{26,34}Lys²³-(Glut-ALit)-GLP-1(7-37); Arg^{26,34}Lys²³-(Glut-ALit)-GLP-1(7-38); Thr⁸Asp¹⁹Arg^{26,34}Lys²³-(Glut-ALit)-GLP-1(7-38); Thr⁸Asp¹⁹Arg^{26,34}Lys³-(Glut-ALit)-GLP-1(7-38); Thr⁸Asp¹⁹Arg^{26,34}Lys³-(Glut-ALit)-GLP-1(7-38); Thr⁸Asp¹⁹Arg^{26,34}Lys³-(Glut-ALit)-GLP-1(7-38); Thr⁸Asp¹⁹Arg^{26,34}Lys³-(Glut-ALit)-GLP-1(7-38); Thr⁸Asp¹⁹Arg^{26,34}Lys³-(Glut-ALit)-GLP-1(7-38); Thr⁸Asp¹⁹Arg^{26,34}Lys³-(Gl
- ALit)-GLP-1(7-36)amide; Ser⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Glut-ALit)-GLP-1(7-36)amide; Ser⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glut-ALit)-GLP-1(7-38); Ser⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Glut-ALit)-GLP-1(7-36); Arg^{26,34}Lys¹⁸-(Glut-ALit)-GLP-1(7-36); Arg^{26,34}Lys¹⁸-(Glut-ALit)-GLP-1(7-36); Thr⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glut-ALit)-GLP-1(7-37); Arg^{26,34}Lys¹⁸-(Glut-ALit)-GLP-1(7-38); Thr⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glut-ALit)-GLP-1(7-37); Arg^{26,34}Lys¹⁸-(Glut-ALit)-GLP-1(7-38); Thr⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glut-ALit)-GLP-1(7-37); Arg^{26,34}Lys¹⁸-(Glut-ALit)-GLP-1(7-38); Thr⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glut-ALit)-GLP-1(7-37); Arg^{26,34}Lys¹⁸-(Glut-ALit)-GLP-1(7-38); Thr⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glut-ALit)-GLP-1(7-37); Arg^{26,34}Lys¹⁸-(Glut-ALit)-GLP-1(7-38); Thr⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glut-ALit)-GLP-1(7-38); Thr⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glut
- Ser⁸Asp¹⁹Arg^{28,34}Lys²³-(Glut-ALit)-GLP-1(7-37); Ser⁸Asp¹⁹Arg^{28,34}Lys²³-(Glut-ALit)-GLP-1(7-38); Ser⁸Asp¹⁷Arg^{28,34}Lys²³-(Glut-ALit)-GLP-1(7-38); Arg^{28,34}Lys²⁷-(Glut-ALit)-GLP-1(7-36); Arg^{28,34}Lys²⁷-(Glut-ALit)-GLP-1(7-36)amide; Arg^{28,34}Lys²⁷-(Glut-ALit)-GLP-1(7-37); Arg^{28,34}Lys²⁷-(Glut-ALit)-GLP-1(7-38); Ser⁸Asp¹⁹Arg^{28,34}Lys²⁷-(Glut-ALit)-GLP-1(7-36); Ser⁸Asp¹⁷Arg^{28,34}Lys²⁷-(Glut-ALit)-GLP-1(7-36); Ser⁸Asp¹⁹Arg^{28,34}Lys²⁷-(Glut-ALit)-GLP-1(7-36); Ser⁸Asp¹⁷Arg^{28,34}Lys²⁷-(Glut-ALit)-GLP-1(7-36); Ser⁸Asp¹⁹Arg^{28,34}Lys²⁷-(Glut-ALit)-GLP-1(7-36); Ser⁸Asp¹⁷Arg^{28,34}Lys²⁷-(Glut-ALit)-GLP-1(7-36); Ser⁸Asp¹⁹Arg^{28,34}Lys²⁷-(Glut-ALit)-GLP-1(7-36); Ser⁸Asp¹⁷Arg^{28,34}Lys²⁷-(Glut-ALit)-GLP-1(7-36); Ser⁸Asp¹⁹Arg^{28,34}Lys²⁷-(Glut-ALit)-GLP-1(7-36)amide:
- Ster Asp Arg 28.34 Lys 29 (Glut-ALit)-GLP-1(7-36); Arg 28.34 Lys 29 (Glut-ALit)-GLP-1(7-36)amide; Arg 28.34 Lys 29 (Glut-ALit)-GLP-1(7-36); Ser Asp 19 Arg 29 Arg 29
- Ser⁸Asp¹⁹Arg^{28,34}Lys¹⁸-(Glut-ALit)-GLP-1(7-37); Ser⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glut-ALit)-GLP-1(7-38); Ser⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Glut-ALit)-GLP-1(7-38); Arg^{26,34}Lys²³-(Glut-ALit)-GLP-1(7-36); Arg^{26,34}Lys²³-(Glut-ALit)-GLP-1(7-36)amide; Arg^{26,34}Lys²³-

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 Ser⁸Arg^{26,34}Lys³⁹-(Aspa-ADod)-GLP-1(7-39);

 30
 Thr⁸Arg²⁶Lys³⁴-(Aspa-ADod)-GLP-1(7-36);

 Thr⁸Arg^{26,34}Lys³⁶-(Aspa-ADod)-GLP-1(7-36);

 Thr⁸Arg^{26,34}Lys²⁸-(Aspa-ADod)-GLP-1(7-36);

 Thr⁸Arg³⁴Lys²⁸-(Aspa-ADod)-GLP-1(7-36);

 Thr⁸Arg³⁴Lys²⁸-(Aspa-ADod)-GLP-1(7-36);

 Thr⁸Arg³⁴Lys²⁸-(Aspa-ADod)-GLP-1(7-36);

 Thr⁸Arg³⁴Lys²⁸-(Aspa-ADod)-GLP-1(7-37);

 Thr⁸Arg^{26,34}Lys³⁶-(Aspa-ADod)-GLP-1(7-37);

 Thr⁸Arg^{26,34}Lys³⁶-(Aspa-ADod)-GLP-1(7-37);

 Thr⁸Arg²⁶Lys³⁴-(Aspa-ADod)-GLP-1(7-37);

- Val⁸Arg^{26,34}Lys³⁹-(Aspa-ADod)-GLP-1(7-39); Ser⁸Arg^{26,34}Lys³⁶-(Aspa-ADod)-GLP-1(7-36); Ser⁸Arg^{26,34}Lys³⁶-(Aspa-ADod)-GLP-1(7-36); Ser⁸Arg^{26,34}Lys²⁶-(Aspa-ADod)-GLP-1(7-36); Ser⁸Arg^{26,34}Lys³⁶-(Aspa-ADod)-GLP-1(7-36)amide; Ser⁸Arg³⁴Lys²⁶-(Aspa-ADod)-GLP-1(7-36)amide; Ser⁸Arg^{26,34}Lys³⁶-(Aspa-ADod)-GLP-1(7-36)amide; Ser⁸Arg²⁶Lys³⁴-(Aspa-ADod)-GLP-1(7-37); Ser⁸Arg³⁴Lys²⁶-(Aspa-ADod)-GLP-1(7-37); Ser⁸Arg^{26,34}Lys³⁶-(Aspa-ADod)-GLP-1(7-37); Ser⁸Arg^{26,34}Lys³⁶-(Aspa-ADod)-GLP-1(7-38); Ser⁸Arg^{26,34}Lys³⁶-(Aspa-ADod)-GLP-1(7-38); Ser⁸Arg^{26,34}Lys³⁸-(Aspa-ADod)-GLP-1(7-38); Ser⁸Arg³⁴Lys²⁶-(Aspa-ADod)-GLP-1(7-38); Ser⁸Arg³⁴Lys²⁶-(Aspa-ADod)-GLP-1(7-38); Ser⁸Arg^{26,34}Lys³⁴-(Aspa-ADod)-GLP-1(7-39); Ser⁸Arg³⁴Lys²⁶-(Aspa-ADod)-GLP-1(7-39);
- 15 Val⁸Arg^{26,34}Lys³⁶-(Aspa-ADod)-GLP-1(7-36); Val⁸Arg²⁶Lys³⁴-(Aspa-ADod)-GLP-1(7-36)amide; Val⁸Arg²⁶Lys²⁶-(Aspa-ADod)-GLP-1(7-36)amide; Val⁸Arg^{26,34}Lys³⁶-(Aspa-ADod)-GLP-1(7-37); Val⁸Arg^{26,34}Lys³⁶-(Aspa-ADod)-GLP-1(7-37); Val⁸Arg^{26,34}Lys³⁶-(Aspa-ADod)-GLP-1(7-37); Val⁸Arg^{26,34}Lys³⁶-(Aspa-ADod)-GLP-1(7-38); Val⁸Arg^{26,34}Lys²⁶-(Aspa-ADod)-GLP-1(7-38); Val⁸Arg^{26,34}Lys²⁶-(Aspa-ADod)-GLP-1(7-38); Val⁸Arg^{26,34}Lys²⁶-(Aspa-ADod)-GLP-1(7-38); Val⁸Arg^{26,34}Lys³⁸-(Aspa-ADod)-GLP-1(7-39); Val⁸Arg^{26,34}Lys³⁹-(Aspa-ADod)-GLP-1(7-39); Val⁸Arg^{26,34}Lys³⁹-(Aspa-ADod)-GLP-1(7-36); Ser⁸Arg^{26,34}Lys²⁶-(Aspa-ADod)-GLP-1(7-36); Ser⁸Arg^{26,34}Lys^{26,34}L
- (Aspa-ADod)-GLP-1(7-39); Arg^{26,34}Lys³⁹-(Aspa-ADod)-GLP-1(7-39); 5 Gly8Arg34Lys26-(Aspa-ADod)-GLP-1(7-36); Gly⁸Arg²⁶Lys³⁴-(Aspa-ADod)-GLP-1(7-36); Gly⁸Arg²⁶Lys³⁴-(Aspa-ADod)-GLP-1(7-36)amide; Glv⁸Aro^{26,34}Lvs³⁶-(Aspa-ADod)-GLP-1(7-36); Gly8Arg26,34Lys86-(Aspa-ADod)-GLP-1(7-Glv⁸Arg³⁴Lys²⁶-(Aspa-ADod)-GLP-1(7-36)amide; 36)amide; Gly8Arg26Lys34-(Aspa-ADod)-GLP-1(7-37); Gly8Arg34Lys26-(Aspa-ADod)-GLP-1(7-Gly8Arg26Lys34-(Aspa-ADod)-GLP-1(7-38); 37); Gly⁸Arg^{26,34}Lys³⁶-(Aspa-ADod)-GLP-1(7-37); 10 Gly8Arg26.34Lys38-(Aspa-ADod)-GLP-1(7-38); Gly⁸Arg³⁴Lys²⁶-(Aspa-ADod)-GLP-1(7-38) Gly⁸Arg³⁴Lys²⁶-(Aspa-ADod)-GLP-1(7-39); Glv⁸Arg²⁶Lys³⁴-(Aspa-ADod)-GLP-1(7-39);
- ADod)-GLP-1(7-36)amide; Arg^{26,34}Lys³⁵-(Aspa-ADod)-GLP-1(7-36)amide; Arg²⁶ Lys³⁴-(Aspa-ADod)-GLP-1(7-37); Arg³⁴Lys²⁵-(Aspa-ADod)-GLP-1(7-37); Arg^{26,34}Lys³⁸-(Aspa-ADod)-GLP-1(7-37); Arg²⁶Lys³⁴-(Aspa-ADod)-GLP-1(7-38); Arg³⁴Lys²⁵-(Aspa-ADod)-GLP-1(7-38) ; Arg^{26,34}Lys³⁸-(Aspa-ADod)-GLP-1(7-38); Arg²⁵Lys³⁴-(Aspa-ADod)-GLP-1(7-39); Arg³⁴Lys²⁵-

Glv⁸Arg^{26,34}Lvs³⁹-(Aspa-ADod)-GLP-1(7-39);

Val⁸Arg²⁶Lys³⁴-(Aspa-ADod)-GLP-1(7-36);

Val⁸Arg³⁴Lys²⁶-(Aspa-ADod)-GLP-1(7-36);

- Ser^aGlu³⁵Arg^{26,34}Lys³⁶-(Aspa-ADod)-GLP-1(7-36); Ser^aGlu³⁵Arg^{26,34}Lys³⁶-(Aspa-ADod)-GLP-1(7-Ser⁸Glu³⁸Arg^{26,34}Lys³⁷-(Aspa-ADod)-GLP-1(7-37); Ser⁸Glu³⁷Arg^{26,34}Lys³⁸-(Aspa-36)amide; ADod)-GLP-1(7-38); Ser^aGlu³⁶Arg^{26,34}Lys³⁹-(Aspa-ADod)-GLP-1(7-39); Ser^aGlu³⁵Arg^{26,34}Lys³⁵-30 Ser⁸Glu³⁵Arg^{26,34}Lys³⁶-(Aspa-ADod)-GLP-1(7-36)amide; (Aspa-ADod)-GLP-1(7-36); Ser^aGlu³⁶Arg^{26,34}Lys³⁷-(Aspa-ADod)-GLP-1(7-37); Ser^aGlu³⁷Arg^{26,34}Lys³⁸-(Aspa-ADod)-GLP-1(7-38); Ser^aGlu³⁸Arg^{26,34}Lys³⁹-(Aspa-ADod)-GLP-1(7-39);
- Val⁸Asp³⁵Arg^{26,34}Lys³⁶-(Aspa-ADod)-GLP-1(7-36); Val⁸Asp³⁵Arg^{26,34}Lys³⁶-(Aspa-ADod)-GLP-1(7-Val⁸Asp³⁶Arg^{26,34}Lys³⁷-(Aspa-ADod)-GLP-1(7-37); Val⁸Asp³⁷Arg^{26,34}Lys³⁸-(Aspa-36)amide; ADod)-GLP-1(7-38); Val⁸Asp³⁸Arg^{26,34}Lys³⁹-(Aspa-ADod)-GLP-1(7-39); Val⁸Asp³⁵Arg^{26,34}Lys³⁶-Val⁸Asp³⁵Arg^{26,34}Lys³⁶-(Aspa-ADod)-GLP-1(7-36)amide; 25 (Aspa-ADod)-GLP-1(7-36); Val⁸Asp³⁶Arg^{26,34}Lys³⁷-(Aspa-ADod)-GLP-1(7-37); Val⁸Asp³⁷Arg^{26,34}Lys³⁸-(Aspa-ADod)-GLP-1(7-38); Val⁸Asp³⁸Arg^{26,34}Lys³⁹-(Aspa-ADod)-GLP-1(7-39);
- Val⁸Giu³⁵Arg^{26,34}Lys³⁶-(Aspa-ADod)-GLP-1(7-36); Val⁸Giu³⁵Arg^{26,34}Lys³⁶-(Aspa-ADod)-GLP-1(7-Val⁸Glu³⁷Arg^{26,34}Lys³⁸-(Aspa-Val⁸Glu³⁶Arg^{26,34}Lys³⁷-(Aspa-ADod)-GLP-1(7-37); 36)amide; ADod)-GLP-1(7-38); Val^aGlu³⁸Arg^{26,34}Lys³⁹-(Aspa-ADod)-GLP-1(7-39); Val^aGlu³⁵Arg^{26,34}Lys³⁶-Val⁸Glu³⁵Arg^{26,34}Lys³⁶-(Aspa-ADod)-GLP-1(7-36)amide; (Aspa-ADod)-GLP-1(7-36); Val⁸Glu³⁶Arg^{26,34}Lys³⁷-(Aspa-ADod)-GLP-1(7-37); Val⁸Glu³⁷Arg^{26,34}Lys³⁸-(Aspa-ADod)-GLP-1(7-20

38); Val^aGlu³⁸Arg^{26,34}Lys³⁹-(Aspa-ADod)-GLP-1(7-39);

- Glv⁸Asp³⁵Arg^{26,34}Lys³⁶-(Aspa-ADod)-GLP-1(7-36); Gly⁸Asp³⁵Arg^{26,34}Lys³⁶-(Aspa-ADod)-GLP-1(7-10 Gly⁸Asp³⁶Arg^{26,34}Lys³⁷-(Aspa-ADod)-GLP-1(7-37); Gly⁸Asp³⁷Arg^{26,34}Lys³⁸-(Aspa-36)amide: ADod)-GLP-1(7-38); Gly⁸Asp³⁸Arg^{26,34}Lys³⁹-(Aspa-ADod)-GLP-1(7-39); Gly⁸Asp³⁵Arg^{26,34}Lys³⁶-(Aspa-ADod)-GLP-1(7-36); Gly⁸Asp³⁵Arg^{26,34}Lys³⁶-(Aspa-ADod)-GLP-1(7-36)amide; Gly*Asp36Arg26.34Lys37-(Aspa-ADod)-GLP-1(7-37); Gly*Asp37Arg26.34Lys38-(Aspa-ADod)-GLP-1(7-38); Gly⁸Asp³⁸Arg^{26,34}Lys³⁹-(Aspa-ADod)-GLP-1(7-39); 15
- Thr⁸Arg³⁴Lys²⁶-(Aspa-ADod)-GLP-1(7-39); Thr^aArg²⁶Lys³⁴-(Aspa-ADod)-GLP-1(7-39); Thr⁸Arg^{26,34}Lys³⁹-(Aspa-ADod)-GLP-1(7-39); Gly⁸Glu³⁵Arg^{26,34}Lys³⁶-(Aspa-ADod)-GLP-1(7-36); Gly⁸Glu³⁶Arg^{26,34}Lys³⁷-(Aspa-ADod)-Gly⁸Glu³⁵Arg^{26,34}Lys³⁸-(Aspa-ADod)-GLP-1(7-36)amide; GLP-1(7-37); Gly8Glu37Arg26,34Lys38-(Aspa-ADod)-GLP-1(7-38); Gly8Glu38Arg26,34Lys39-(Aspa-5 ADod)-GLP-1(7-39); Gly8Glu35Arg26,34Lys36-(Aspa-ADod)-GLP-1(7-36); Gly8Glu35Arg26,34Lys36-Gly⁸Glu³⁶Arg^{26,34}Lys³⁷-(Aspa-ADod)-GLP-1(7-37); (Aspa-ADod)-GLP-1(7-36)amide; Gly⁸Glu³⁷Arg^{26,34}Lys³⁸-(Aspa-ADod)-GLP-1(7-38); Gly⁸Glu³⁸Arg^{26,34}Lys³⁹-(Aspa-ADod)-GLP-1(7-39);

Thr⁸Arg³⁴Lys²⁶-(Aspa-ADod)-GLP-1(7-38)

Thr8Arg26.34Lys38-(Aspa-ADod)-GLP-1(7-38);

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Arg^{26,34}Lys²⁷-(Aspa-ADod)-GLP-1(7-36); Arg^{26,34}Lys²⁷-(Aspa-ADod)-GLP-1(7-37);

Arg^{26,34}Lys²³-(Aspa-ADod)-GLP-1(7-36);

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Arg^{28,34}Lys²⁷-(Aspa-ADod)-GLP-1(7-36)amide; Arg^{26,34}Lys²⁷-(Aspa-ADod)-GLP-1(7-38);

Arg^{26,34}Lys²³-(Aspa-ADod)-GLP-1(7-36)amide;

Arg^{26,34}Lys²³-(Aspa-ADod)-GLP-1(7-38); Arg^{26,34}Lys²³-(Aspa-ADod)-GLP-1(7-37); Gly⁸Asp¹⁹Arg^{26,34}Lys²³-(Aspa-ADod)-GLP-1(7-36); Gly⁸Asp¹⁷Arg^{26,34}Lys²³-(Aspa-ADod)-GLP-1(7-Gly⁸Asp¹⁹Arg^{26,34}Lys²³-(Aspa-ADod)-GLP-1(7-36)amide; Gly⁸Asp¹⁷Arg^{26,34}Lys²³-(Aspa-36): Gly⁸Asp¹⁹Arg^{26,34}Lys²³-(Aspa-ADod)-GLP-1(7-37); ADod)-GLP-1(7-36)amide; 30 Gly⁸Asp¹⁹Arg^{26,34}Lys²³-(Aspa-ADod)-GLP-1(7-38); Gly⁸Asp¹⁷Arg^{26,34}Lys²³-(Aspa-ADod)-GLP-1(7-38);

Arg^{26,34}Lys¹⁸-(Aspa-ADod)-GLP-1(7-36)amide; Arg^{26,34}Lys¹⁸-(Aspa-ADod)-GLP-1(7-36); Arg^{26,34}Lys¹⁸-(Aspa-ADod)-GLP-1(7-38); 20 Arg^{26,34}Lys¹⁸-(Aspa-ADod)-GLP-1(7-37); Gly⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Aspa-ADod)-GLP-1(7-36); Gly⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Aspa-ADod)-GLP-1(7-Gly⁸Asp¹⁷Arg^{28,34}Lys¹⁸-(Aspa-Gly8Asp18Arg28.34Lys18-(Aspa-ADod)-GLP-1(7-36)amide; 36); Gly⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Aspa-ADod)-GLP-1(7-37); ADod)-GLP-1(7-36)amide; Gly⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Aspa-ADod)-GLP-1(7-38); Gly⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Aspa-ADod)-GLP-1(7-38);

38); Thr^aGlu³⁸Arg^{26,34}Lys³⁹-(Aspa-ADod)-GLP-1(7-39); Thr^aAsp³⁵Arg^{26,34}Lys³⁶-(Aspa-ADod)-GLP-1(7-36); Thr^aAsp³⁵Arg^{26,34}Lys³⁶-(Aspa-ADod)-GLP-1(7-Thr⁸Asp³⁶Arg^{26,34}Lys³⁷-(Aspa-ADod)-GLP-1(7-37); Thr8Asp37Arg26,34Lys38-(Aspa-36)amide; ADod)-GLP-1(7-38); Thr⁸Asp³⁸Arg^{26,34}Lys³⁹-(Aspa-ADod)-GLP-1(7-39); Thr⁸Asp³⁵Arg^{26,34}Lys³⁸-15 Thr^aAsp³⁵Arg^{26,34}Lys³⁶-(Aspa-ADod)-GLP-1(7-36)amide; (Aspa-ADod)-GLP-1(7-36); Thr8Asp36Arg26,34Lys37-(Aspa-ADod)-GLP-1(7-37); Thr8Asp37Arg26,34Lys38-(Aspa-ADod)-GLP-1(7-38); Thr⁸Asp³⁸Arg^{26,34}Lys³⁹-(Aspa-ADod)-GLP-1(7-39);

1(7-38); Ser⁸Asp³⁸Arg^{28,34}Lys³⁹-(Aspa-ADod)-GLP-1(7-39); Thr^aGlu³⁵Arg^{26,34}Lys³⁶-(Aspa-ADod)-GLP-1(7-36); Thr^aGlu³⁵Arg^{26,34}Lys³⁸-(Aspa-ADod)-GLP-1(7-Thr^aGlu³⁷Arg^{26,34}Lys³⁸-(Aspa-Thr⁸Glu³⁶Arg^{26,34}Lys³⁷-(Aspa-ADod)-GLP-1(7-37); 36)amide: ADod)-GLP-1(7-38); Thr^aGlu³⁸Arg^{26,34}Lys³⁹-(Aspa-ADod)-GLP-1(7-39); Thr^aGlu³⁵Arg^{26,34}Lys³⁶-Thr⁸Glu³⁵Arg^{26,34}Lys³⁶-(Aspa-ADod)-GLP-1(7-36)amide; (Aspa-ADod)-GLP-1(7-36); 10 Thr⁸Glu³⁶Arg^{26,34}Lys³⁷-(Aspa-ADod)-GLP-1(7-37); Thr⁸Glu³⁷Arg^{28,34}Lys³⁸-(Aspa-ADod)-GLP-1(7-

Ser⁸Asp³⁵Arg^{26,34}Lys³⁶-(Aspa-ADod)-GLP-Ser⁸Asp³⁵Arg^{26,34}Lys³⁶-(Aspa-ADod)-GLP-1(7-36); 1(7-36)amide; Ser⁸Asp³⁶Arg^{26,34}Lys³⁷-(Aspa-ADod)-GLP-1(7-37); Ser⁸Asp³⁷Arg^{26,34}Lys³⁸-(Aspa-ADod)-GLP-1(7-38); Ser^aAsp³⁸Arg^{26,34}Lys³⁹-(Aspa-ADod)-GLP-1(7-39); Ser^aAsp³⁵Arg^{26,34}Lys³⁶-Ser⁸Asp³⁵Arg^{26,34}Lys³⁶-(Aspa-ADod)-GLP-1(7-36)amide; (Aspa-ADod)-GLP-1(7-36); Ser⁸Asp³⁷Arg^{26,34}Lys³⁸-(Aspa-ADod)-GLP-Ser⁸Asp³⁶Arg^{26,34}Lys³⁷-(Aspa-ADod)-GLP-1(7-37); 5

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Gly⁸Asp¹⁹Arg^{28,34}Lys²⁷-(Aspa-ADod)-GLP-1(7-36); Gly⁸Asp¹⁷Arg^{28,34}Lys²⁷-(Aspa-ADod)-GLP-1(7-36); Gly⁸Asp¹⁹Arg^{28,34}Lys²⁷-(Aspa-ADod)-GLP-1(7-36)amide; Gly⁸Asp¹⁹Arg^{28,34}Lys²⁷-(Aspa-ADod)-GLP-1(7-37); Gly⁸Asp¹⁹Arg^{28,34}Lys²⁷-(Aspa-ADod)-GLP-1(7-38); Gly⁸Asp¹⁷Arg^{28,34}Lys²⁷-(Aspa-ADod)-GLP-1(7-37); Gly⁸Asp¹⁹Arg^{28,34}Lys²⁷-(Aspa-ADod)-GLP-1(7-38); Gly⁸Asp¹⁷Arg^{28,34}Lys²⁷-(Aspa-ADod)-GLP-1(7-37); Gly⁸Asp¹⁹Arg^{28,34}Lys²⁷-(Aspa-ADod)-GLP-1(7-38); Gly⁸Asp¹⁷Arg^{28,34}Lys²⁷-(Aspa-ADod)-GLP-1(7-37); Gly⁸Asp¹⁹Arg^{28,34}Lys²⁷-(Aspa-ADod)-GLP-1(7-38); Gly⁸Asp¹⁷Arg^{28,34}Lys²⁷-(Aspa-ADod)-GLP-1(7-38); Gly⁸Asp¹⁷Arg^{28,34}Ly

5 38);

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 Arg^{26,34}Lys¹⁸-(Aspa-ADod)-GLP-1(7-36);
 Arg^{26,34}Lys¹⁸-(Aspa-ADod)-GLP-1(7-36)amide;

 Arg^{26,34}Lys¹⁸-(Aspa-ADod)-GLP-1(7-37);
 Arg^{26,34}Lys¹⁸-(Aspa-ADod)-GLP-1(7-38);

 Val⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Aspa-ADod)-GLP-1(7-36);
 Val⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Aspa-ADod)-GLP-1(7-38);

 Val⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Aspa-ADod)-GLP-1(7-36);
 Val⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Aspa-ADod)-GLP-1(7-36)amide;

 Val⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Aspa-ADod)-GLP-1(7-36)amide;
 Val⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Aspa-ADod)-GLP-1(7-37);

 Val⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Aspa-ADod)-GLP-1(7-38);
 Val⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Aspa-ADod)-GLP-1(7-37);

 Val⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Aspa-ADod)-GLP-1(7-38);
 Val⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Aspa-ADod)-GLP-1(7-37);

 Val⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Aspa-ADod)-GLP-1(7-38);
 Val⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Aspa-ADod)-GLP-1(7-37);

 Val⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Aspa-ADod)-GLP-1(7-38);
 Val⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Aspa-ADod)-GLP-1(7-37);

 Val⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Aspa-ADod)-GLP-1(7-38);
 Val⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Aspa-ADod)-GLP-1(7-38);

 Arg^{26,34}Lys²³-(Aspa-ADod)-GLP-1(7-36);
 Arg^{26,34}Lys²³-(Aspa-ADod)-GLP-1(7-36)amide;

 Arg^{26,34}Lys²³-(Aspa-ADod)-GLP-1(7-37);
 Arg^{26,34}Lys²³-(Aspa-ADod)-GLP-1(7-38);

 Val⁸Asp¹⁹Arg^{26,34}Lys²³-(Aspa-ADod)-GLP-1(7-36);
 Val⁸Asp¹⁷Arg^{26,34}Lys²³-(Aspa-ADod)-GLP-1(7-36);

 36);
 Val⁸Asp¹⁹Arg^{26,34}Lys²³-(Aspa-ADod)-GLP-1(7-36)amide;
 Val⁸Asp¹⁹Arg^{26,34}Lys²³-(Aspa-ADod)-GLP-1(7-37);

 ADod)-GLP-1(7-36)amide;
 Val⁸Asp¹⁹Arg^{26,34}Lys²³-(Aspa-ADod)-GLP-1(7-37);

 Val⁸Asp¹⁹Arg^{26,34}Lys²³-(Aspa-ADod)-GLP-1(7-38);
 Val⁸Asp¹⁷Arg^{26,34}Lys²³-(Aspa-ADod)-GLP-1(7-38);

 38);
 Val⁹Asp¹⁹Asp¹⁹Asp¹⁹Asp¹⁹Asp¹⁹Asp¹⁷Asp^{26,34}Lys²³-(Aspa-ADod)-GLP-1(7-38);

- Arg^{26,34}Lys²⁷-(Aspa-ADod)-GLP-1(7-36); Arg^{26,34}Lys²⁷-(Aspa-ADod)-GLP-1(7-36)amide; Arg^{26,34}Lys²⁷-(Aspa-ADod)-GLP-1(7-37); Arg^{26,34}Lys²⁷-(Aspa-ADod)-GLP-1(7-38); Val⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Aspa-ADod)-GLP-1(7-36); Val⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Aspa-ADod)-GLP-1(7-36); Val⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Aspa-ADod)-GLP-1(7-36)amide; Val⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Aspa-ADod)-GLP-1(7-37); Val⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Aspa-ADod)-GLP-1(7-37); Val
- 25 Val[®]Asp^{1®}Arg^{28,34}Lys²⁷-(Aspa-ADod)-GLP-1(7-38); Val[®]Asp¹⁷Arg^{28,34}Lys²⁷-(Aspa-ADod)-GLP-1(7-38); 38);

 Arg^{26,34}Lys¹⁸-(Aspa-ADod)-GLP-1(7-36);
 Arg^{26,34}Lys¹⁸-(Aspa-ADod)-GLP-1(7-36)amide;

 Arg^{26,34}Lys¹⁸-(Aspa-ADod)-GLP-1(7-37);
 Arg^{26,34}Lys¹⁸-(Aspa-ADod)-GLP-1(7-38);

 Ser⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Aspa-ADod)-GLP-1(7-36);
 Ser⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Aspa-ADod)-GLP-1(7-38);

 30
 1(7-36);
 Ser⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Aspa-ADod)-GLP-1(7-36)amide;

 30
 1(7-36);
 Ser⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Aspa-ADod)-GLP-1(7-37);

 30
 Ser⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Aspa-ADod)-GLP-1(7-38);
 Ser⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Aspa-ADod)-GLP-1(7-37);

 30
 Ser⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Aspa-ADod)-GLP-1(7-38);
 Ser⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Aspa-ADod)-GLP-1(7-37);

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Arg^{28,34}Lys²³-(Aspa-ADod)-GLP-1(7-36);

Arg^{26,34}Lys²³-(Aspa-ADod)-GLP-1(7-37);

Ser⁸Asp¹⁹Arg^{26,34}Lys²³-(Aspa-ADod)-GLP-1(7-36);

Arg^{26,34}Lys²³-(Aspa-ADod)-GLP-1(7-36)amide;

Arg^{26,34}Lys²³-(Aspa-ADod)-GLP-1(7-38);

Ser⁸Asp¹⁷Arg^{26,34}Lys²³-(Aspa-ADod)-GLP-

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1(7-36); Ser⁸Asp¹⁹Arg^{28,34}Lys²³-(Aspa-ADod)-GLP-1(7-36)amide; Ser⁸Asp¹⁷Arg^{28,34}Lys²³-(Aspa-Ser⁸Asp¹⁹Arg^{26,34}Lys²³-(Aspa-ADod)-GLP-1(7-37); ADod)-GLP-1(7-36)amide; Ser⁸Asp¹⁷Arg^{26,34}Lys²³-(Aspa-ADod)-GLP-Ser⁸Asp¹⁹Arg^{26,34}Lys²³-(Aspa-ADod)-GLP-1(7-38); 1(7-38); Arg^{26,34}Lys²⁷-(Aspa-ADod)-GLP-1(7-36)amide; Arg^{26,34}Lys²⁷-(Aspa-ADod)-GLP-1(7-36); Arg^{26,34}Lys²⁷-(Aspa-ADod)-GLP-1(7-38); Arg^{26,34}Lys²⁷-(Aspa-ADod)-GLP-1(7-37); Ser⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Aspa-ADod)-GLP-1(7-36); Ser⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Aspa-ADod)-GLP-1(7-36); Ser⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Aspa-ADod)-GLP-1(7-36)amide; Ser⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Aspa-Ser⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Aspa-ADod)-GLP-1(7-37); ADod)-GLP-1(7-36)amide; Ser⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Aspa-ADod)-GLP-Ser⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Aspa-ADod)-GLP-1(7-38); 1(7-38): Arg^{25,34}Lys¹⁸-(Aspa-ADod)-GLP-1(7-36)amide; Arg^{26,34}Lys¹⁸-(Aspa-ADod)-GLP-1(7-36); Arg^{26,34}Lys¹⁸-(Aspa-ADod)-GLP-1(7-38); Arg^{26,34}Lys¹⁸-(Aspa-ADod)-GLP-1(7-37); Thr8Asp19Arg28.34Lys18-(Aspa-ADod)-GLP-1(7-36); Thr8Asp17Arg28.34Lys18-(Aspa-ADod)-GLP-1(7-Thr⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Aspa-Thr⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Aspa-ADod)-GLP-1(7-36)amide; 36); Thr⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Aspa-ADod)-GLP-1(7-37); ADod)-GLP-1(7-36)amide; Thr8Asp19Arg2634Lys18-(Aspa-ADod)-GLP-1(7-38); Thr8Asp17Arg2634Lys18-(Aspa-ADod)-GLP-1(7-38); Arg^{26,34}Lys²³-(Aspa-ADod)-GLP-1(7-36)amide; Arg28,34Lys23-(Aspa-ADod)-GLP-1(7-36); Arg26,34Lys23-(Aspa-ADod)-GLP-1(7-38); Arg^{26,34}Lys²³-(Aspa-ADod)-GLP-1(7-37); Thr8Asp18Arg28.34Lys22-(Aspa-ADod)-GLP-1(7-36); Thr8Asp17Arg26.34Lys22-(Aspa-ADod)-GLP-1(7-Thr8Asp17Arg26.34Lys23-(Aspa-Thr⁸Asp¹⁸Arg^{26,34}Lys²³-(Aspa-ADod)-GLP-1(7-36)amide; 36): Thr⁸Asp¹⁹Arg^{26,34}Lys²³-(Aspa-ADod)-GLP-1(7-37); ADod)-GLP-1(7-36)amide; Thr8Asp19Arg28.34Lys23-(Aspa-ADod)-GLP-1(7-38); Thr8Asp17Arg28.34Lys23-(Aspa-ADod)-GLP-1(7-38); Arg26,34Lys27-(Aspa-ADod)-GLP-1(7-36)amide; Arg^{28,34}Lys²⁷-(Aspa-ADod)-GLP-1(7-36); Arg^{26,34}Lys²⁷-(Aspa-ADod)-GLP-1(7-38); Arg^{26,34}Lys²⁷-(Aspa-ADod)-GLP-1(7-37); Thr8Asp19Arg28.34Lys27-(Aspa-ADod)-GLP-1(7-36); Thr8Asp17Arg26.34Lys27-(Aspa-ADod)-GLP-1(7-Thr8Asp17Arg26,34Lys27-(Aspa-Thr⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Aspa-ADod)-GLP-1(7-36)amide; 36); Thr⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Aspa-ADod)-GLP-1(7-37); ADod)-GLP-1(7-36)amide;

Thr8Asp19Arg28,34Lys27-(Aspa-ADod)-GLP-1(7-38); Thr8Asp17Arg28,34Lys27-(Aspa-ADod)-GLP-1(7-38);

Arg26Lys34-(Aspa-ATet)-GLP-1(7-36); Arg34Lys26-(Aspa-ATet)-GLP-1(7-36); Arg28.34Lys36-(Aspa-ATet)-GLP-1(7-36); Arg26Lys34-(Aspa-ATet)-GLP-1(7-36)amide; Arg34 Lys26-(Aspa-ATet)-GLP-

- 1(7-36)amide; Arg^{26,34}Lys³⁶-(Aspa-ATet)-GLP-1(7-36)amide; Arg²⁶ Lys³⁴-(Aspa-ATet)-GLP-1(7-5 37); Arg³⁴Lys²⁶-(Aspa-ATet)-GLP-1(7-37); Arg^{26,34}Lys³⁶-(Aspa-ATet)-GLP-1(7-37); Arg²⁶Lys³⁴-(Aspa-ATet)-GLP-1(7-38); Arg³⁴Lys²⁶-(Aspa-ATet)-GLP-1(7-38) ; Arg^{28,34}Lys³⁸-(Aspa-ATet)-Arg²⁶Lys³⁴-(Aspa-ATet)-GLP-1(7-39); GLP-1(7-38); Arg³⁴Lys²⁶-(Aspa-ATet)-GLP-1(7-39); Arg26,34Lys39-(Aspa-ATet)-GLP-1(7-39);
- Gly⁸Arg²⁶Lys³⁴-(Aspa-ATet)-GLP-1(7-36); 10 Gly8Arg26,34Lys38-(Aspa-ATet)-GLP-1(7-36); Gly⁸Arg²⁸Lys³⁴-(Aspa-ATet)-GLP-1(7-36)amide: Gly⁸Arg³⁴Lys²⁸-(Aspa-ATet)-GLP-1(7-36)amide; Gly8Arg26,34Lys35-(Aspa-ATet)-GLP-1(7-36)amide; Gly8Arg26Lys34-(Aspa-ATet)-GLP-1(7-37); Gly8Arg34Lys26-(Aspa-ATet)-GLP-1(7-37); Gly⁸Arg^{26,34}Lys³⁶-(Aspa-ATet)-GLP-1(7-37); Gly⁸Arg²⁶Lys³⁴-(Aspa-ATet)-GLP-1(7-38); Gly⁸Arg³⁴Lys²⁶-(Aspa-ATet)-GLP-1(7-38) 15

:

Gly⁸Arg²⁶Lys³⁴-(Aspa-ATet)-GLP-1(7-39); Gly⁸Arg^{26,34}Lys³⁹-(Aspa-ATet)-GLP-1(7-39); Val⁸Arg²⁶Lys³⁴-(Aspa-ATet)-GLP-1(7-36); Val⁸Arg^{26,34}Lys³⁶-(Aspa-ATet)-GLP-1(7-36);

- Val⁸Arg³⁴Lys²⁶-(Aspa-ATet)-GLP-1(7-36)amide: 20 Val⁸Arg^{28,34}Lys³⁸-(Aspa-ATet)-GLP-1(7-37); Val⁸Arg³⁴Lys²⁶-(Aspa-ATet)-GLP-1(7-38) Val⁸Arg²⁶Lys³⁴-(Aspa-ATet)-GLP-1(7-39);
- Val⁸Arg^{26,34}Lys³⁹-(Aspa-ATet)-GLP-1(7-39); 25 Ser8Arg28Lys34-(Aspa-ATet)-GLP-1(7-36); Ser8Arg26,34Lys36-(Aspa-ATet)-GLP-1(7-36); Ser⁸Arg³⁴Lys²⁶-(Aspa-ATet)-GLP-1(7-36)amide;

Ser⁸Arg^{26,34}Lys³⁶-(Aspa-ATet)-GLP-1(7-37); Ser⁸Arg³⁴Lys²⁶-(Aspa-ATet)-GLP-1(7-38) Ser⁴Arg²⁶Lys³⁴-(Aspa-ATet)-GLP-1(7-39); Ser⁸Arg^{26,34}Lys³⁹-(Aspa-ATet)-GLP-1(7-39);

30

Gly⁸Arg³⁴Lys²⁶-(Aspa-ATet)-GLP-1(7-36): Gly⁸Arg^{26,34}Lys³⁸-(Aspa-ATet)-GLP-1(7-38); Gly⁸Arg³⁴Lys²⁶-(Aspa-ATet)-GLP-1(7-39);

Val⁸Arg³⁴Lys²⁶-(Aspa-ATet)-GLP-1(7-36); Val⁸Arg²⁶Lys³⁴-(Aspa-ATet)-GLP-1(7-36)amide; Val8Arg26.34Lys36-(Aspa-ATet)-GLP-1(7-36)amide; Val⁸Arg²⁶Lys³⁴-(Aspa-ATet)-GLP-1(7-37); Val⁸Arg³⁴Lys²⁶-(Aspa-ATet)-GLP-1(7-37); Val⁸Arg²⁶Lys³⁴-(Aspa-ATet)-GLP-1(7-38); Val⁸Arg^{26,34}Lys³⁸-(Aspa-ATet)-GLP-1(7-38); Val⁸Arg³⁴Lys²⁶-(Aspa-ATet)-GLP-1(7-39);

Ser⁸Arg³⁴Lys²⁶-(Aspa-ATet)-GLP-1(7-36); Ser⁸Arg²⁶Lys³⁴-(Aspa-ATet)-GLP-1(7-36)amide; Ser⁸Arg^{26,34}Lys³⁶-(Aspa-ATet)-GLP-1(7-36)amide; Ser⁸Arg²⁶Lys³⁴-(Aspa-ATet)-GLP-1(7-37); Ser⁸Arg³⁴Lys²⁶-(Aspa-ATet)-GLP-1(7-37); Ser^aArg²⁶Lys³⁴-(Aspa-ATet)-GLP-1(7-38); Ser⁸Arg^{26,34}Lys³⁸-(Aspa-ATet)-GLP-1(7-38); Ser⁴Arg³⁴Lys²⁶-(Aspa-ATet)-GLP-1(7-39);

38); Val⁸Asp³⁸Arg^{26,34}Lys³⁹-(Aspa-ATet)-GLP-1(7-39); Ser⁸Glu³⁵Arg^{26,34}Lys³⁶-(Aspa-ATet)-GLP-1(7-36); Ser⁸Glu³⁵Arg^{26,34}Lys³⁶-(Aspa-ATet)-GLP-1(7-36)amide; Ser⁸Glu³⁶Arg^{26,34}Lys³⁷-(Aspa-ATet)-GLP-1(7-37); Ser⁸Glu³⁷Arg^{26,34}Lys³⁸-(Aspa-ATet)-

- Val⁸Asp³⁵Arg^{26,34}Lys³⁶-(Aspa-ATet)-GLP-1(7-36); Val⁸Asp³⁵Arg^{26,34}Lys³⁶-(Aspa-ATet)-GLP-1(7-36)amide; Val[®]Asp³⁸Arg^{26,34}Lys³⁷-(Aspa-ATet)-GLP-1(7-37); Val[®]Asp³⁷Arg^{26,34}Lys³⁸-(Aspa-ATet)-GLP-1(7-38); Val⁸Asp³⁸Arg^{26,34}Lys³⁹-(Aspa-ATet)-GLP-1(7-39); Val⁸Asp³⁵Arg^{26,34}Lys³⁶-(Aspa-Val⁸Asp³⁵Arg^{26,34}Lys³⁶-(Aspa-ATet)-GLP-1(7-36)amide; ATet)-GLP-1(7-36); 30 Val⁸Asp³⁸Arg^{26,34}Lys³⁷-(Aspa-ATet)-GLP-1(7-37); Val⁸Asp³⁷Arg^{26,34}Lys³⁸-(Aspa-ATet)-GLP-1(7-
- Val⁸Glu³⁵Arg^{26,34}Lys³⁶-(Aspa-ATet)-GLP-1(7-36); Val⁸Glu³⁵Arg^{26,34}Lys³⁶-(Aspa-ATet)-GLP-1(7-36)amide; Val⁸Glu³⁸Arg^{26,34}Lys³⁷-(Aspa-ATet)-GLP-1(7-37); Val⁸Glu³⁷Arg^{26,34}Lys³⁸-(Aspa-ATet)-GLP-1(7-38); Val⁸Glu³⁸Arg^{26,34}Lys³⁹-(Aspa-ATet)-GLP-1(7-39); Val⁸Glu³⁵Arg^{26,34}Lys³⁶-(Aspa-Val⁸Glu³⁵Arg^{26,34}Lys³⁸-(Aspa-ATet)-GLP-1(7-36)amide; ATet)-GLP-1(7-36); Val⁸Glu³⁶Arg^{26,34}Lys³⁷-(Aspa-ATet)-GLP-1(7-37); Val⁸Glu³⁷Arg^{26,34}Lys³⁸-(Aspa-ATet)-GLP-1(7-25

38); Val[®]Glu³⁸Arg^{28,34}Lys³⁹-(Aspa-ATet)-GLP-1(7-39);

- Gly⁸Asp³⁵Arg^{26,34}Lys³⁶-(Aspa-ATet)-GLP-1(7-36); Gly⁸Asp³⁵Arg^{26,34}Lys³⁶-(Aspa-ATet)-GLP-1(7-15 36)amide; Gly⁸Asp³⁶Arg^{26,34}Lys³⁷-(Aspa-ATet)-GLP-1(7-37); Gly⁸Asp³⁷Arg^{26,34}Lys³⁸-(Aspa-ATet)-GLP-1(7-38); Gly⁸Asp³⁸Arg^{26,34}Lys³⁹-(Aspa-ATet)-GLP-1(7-39); Gly⁸Asp³⁵Arg^{26,34}Lys³⁸-(Aspa-Glv⁸Asp³⁵Arg^{26,34}Lys³⁶-(Aspa-ATet)-GLP-1(7-36)amide; ATet)-GLP-1(7-36); Gly⁸Asp³⁸Arg^{26,34}Lys³⁷-(Aspa-ATet)-GLP-1(7-37); Gly⁸Asp³⁷Arg^{26,34}Lys³⁸-(Aspa-ATet)-GLP-1(7-38); Gly⁸Asp³⁸Arg^{26,34}Lys³⁹-(Aspa-ATet)-GLP-1(7-39);
- Gly⁸Glu³⁵Arg^{26,34}Lys³⁸-(Aspa-ATet)-GLP-1(7-36); Gly⁸Glu³⁵Arg^{26,34}Lys³⁸-(Aspa-ATet)-GLP-1(7-36)amide; Gly⁸Glu³⁶Arg^{26,34}Lys³⁷-(Aspa-ATet)-GLP-1(7-37); Gly⁸Glu³⁷Arg^{26,34}Lys³⁸-(Aspa-ATet)-10 GLP-1(7-38); Gly8Glu38Arg26.34Lys39-(Aspa-ATet)-GLP-1(7-39); Gly8Glu35Arg28.34Lys38-(Aspa-Gly⁸Glu³⁵Arg^{26,34}Lys³⁶-(Aspa-ATet)-GLP-1(7-36)amide; ATet)-GLP-1(7-36); Gly⁸Glu³⁶Arg^{26,34}Lys³⁷-(Aspa-ATet)-GLP-1(7-37); Gly⁸Glu³⁷Arg^{26,34}Lys³⁸-(Aspa-ATet)-GLP-1(7-38); Gly⁸Glu³⁸Arg^{26,34}Lys³⁹-(Aspa-ATet)-GLP-1(7-39);
- Thr⁸Arg²⁶Lys³⁴-(Aspa-ATet)-GLP-1(7-36)amide; Thr⁸Arg^{26,34}Lys³⁶-(Aspa-ATet)-GLP-1(7-36); Thr⁸Arg^{26,34}Lys³⁶-(Aspa-ATet)-GLP-1(7-Thr⁸Arg³⁴Lys²⁶-(Aspa-ATet)-GLP-1(7-36)amide; 36)amide; Thr^aArg²⁶Lys³⁴-(Aspa-ATet)-GLP-1(7-37); Thr^aArg³⁴Lys²⁶-(Aspa-ATet)-GLP-1(7-37); Thr⁸Arg²⁶Lys³⁴-(Aspa-ATet)-GLP-1(7-38); Thr⁸Arg^{26,34}Lys³⁶-(Aspa-ATet)-GLP-1(7-37); 5 Thr⁸Arg^{26,34}Lys³⁹-(Aspa-ATet)-GLP-1(7-38); Thr⁴Arg³⁴Lys²⁶-(Aspa-ATet)-GLP-1(7-38) Thr⁸Arg³⁴Lys²⁶-(Aspa-ATet)-GLP-1(7-39); Thr⁸Arg²⁶Lys³⁴-(Aspa-ATet)-GLP-1(7-39); Thr8Arg26,34Lys39-(Aspa-ATet)-GLP-1(7-39);

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Thr⁸Arg³⁴Lys²⁶-(Aspa-ATet)-GLP-1(7-36);

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Thr^aArg²⁶Lys³⁴-(Aspa-ATet)-GLP-1(7-36);

- GLP-1(7-38); Ser^aGlu³⁸Arg^{26,34}Lys³⁹-(Aspa-ATet)-GLP-1(7-39); Ser^aGlu³⁵Arg^{26,34}Lys³⁹-(Aspa-Ser[®]Glu³⁵Arg^{26,34}Lys³⁸-(Aspa-ATet)-GLP-1(7-36)amide; ATet)-GLP-1(7-36); Ser⁴Glu³⁶Arg^{26,34}Lys³⁷-(Aspa-ATet)-GLP-1(7-37); Ser⁴Glu³⁷Arg^{26,34}Lys³⁸-(Aspa-ATet)-GLP-1(7-38); Ser^aGlu³⁸Arg^{26,34}Lys³⁹-(Aspa-ATet)-GLP-1(7-39);
- Ser⁸Asp³⁵Arg^{26,34}Lys³⁶-(Aspa-ATet)-GLP-1(7-36); Ser⁸Asp³⁵Arg^{26,34}Lys³⁶-(Aspa-ATet)-GLP-1(7-5 36)amide; Ser⁸Asp³⁶Arg^{26,34}Lys³⁷-(Aspa-ATet)-GLP-1(7-37); Ser⁸Asp³⁷Arg^{26,34}Lys³⁸-(Aspa-ATet)-GLP-1(7-38); Ser⁸Asp³⁸Arg^{26,34}Lys³⁹-(Aspa-ATet)-GLP-1(7-39); Ser⁸Asp³⁵Arg^{26,34}Lys³⁶-(Aspa-ATet)-GLP-1(7-36); Ser⁸Asp³⁵Arg^{26,34}Lys³⁶-(Aspa-ATet)-GLP-1(7-36)amide; Ser⁸Asp³⁶Arg^{26,34}Lys³⁷-(Aspa-ATet)-GLP-1(7-37); Ser⁸Asp³⁷Arg^{26,34}Lys³⁸-(Aspa-ATet)-GLP-1(7-38); Ser⁸Asp³⁸Arg^{26,34}Lys³⁹-(Aspa-ATet)-GLP-1(7-39);
- 10
- Thr⁸Glu³⁵Arg^{26,34}Lys³⁸-(Aspa-ATet)-GLP-1(7-36); Thr⁸Glu³⁵Arg^{26,34}Lys³⁸-(Aspa-ATet)-GLP-1(7-36)amide; Thr^aGlu³⁶Arg^{26,34}Lys³⁷-(Aspa-ATet)-GLP-1(7-37); Thr^aGlu³⁷Arg^{26,34}Lys³⁸-(Aspa-ATet)-GLP-1(7-38); Thr^aGlu³⁸Arg^{26,34}Lys³⁹-(Aspa-ATet)-GLP-1(7-39); Thr^aGlu³⁵Arg^{26,34}Lys³⁸-(Aspa-ATet)-GLP-1(7-36); Thr⁸Glu³⁵Arg^{26,34}Lys³⁶-(Aspa-ATet)-GLP-1(7-36)amide; Thr⁸Glu³⁶Arg^{26,34}Lys³⁷-(Aspa-ATet)-GLP-1(7-37); Thr⁸Glu³⁷Arg^{26,34}Lys³⁸-(Aspa-ATet)-GLP-1(7-15 38); Thr^aGlu³⁸Arg^{26,34}Lys³⁹-(Aspa-ATet)-GLP-1(7-39);
- Thr⁸Asp³⁵Arg^{28,34}Lys³⁶-(Aspa-ATet)-GLP-1(7-36); Thr⁸Asp³⁵Arg^{28,34}Lys³⁶-(Aspa-ATet)-GLP-1(7-36)amide; Thr⁸Asp³⁶Arg^{26,34}Lys³⁷-(Aspa-ATet)-GLP-1(7-37); Thr⁸Asp³⁷Arg^{26,34}Lys³⁸-(Aspa-ATet)-GLP-1(7-38); Thr^aAsp³⁸Arg^{26,34}Lys³⁹-(Aspa-ATet)-GLP-1(7-39); Thr^aAsp³⁵Arg^{26,34}Lys³⁶-(Aspa-ATet)-GLP-1(7-36); Thr⁸Asp³⁵Arg^{26,34}Lys³⁶-(Aspa-ATet)-GLP-1(7-36)amide; 20
 - Thr8Asp38Arg28.34Lys37-(Aspa-ATet)-GLP-1(7-37); Thr8Asp37Arg28.34Lys38-(Aspa-ATet)-GLP-1(7-38); Thr⁸Asp³⁸Arg^{26,34}Lys³⁹-(Aspa-ATet)-GLP-1(7-39);

Arg^{28,34}Lys¹⁸-(Aspa-ATet)-GLP-1(7-36); Arg^{26,34}Lys¹⁸-(Aspa-ATet)-GLP-1(7-36)amide; Arg^{26,34}Lys¹⁸-(Aspa-ATet)-GLP-1(7-37); Arg^{26,34}Lys¹⁸-(Aspa-ATet)-GLP-1(7-38);

- Gly⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Aspa-ATet)-GLP-1(7-36); Gly⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Aspa-ATet)-GLP-1(7-25 36); Gly⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Aspa-ATet)-GLP-1(7-36)amide; Gly⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Aspa-ATet)-GLP-1(7-36)amide; Gly⁸Asp¹⁹Arg^{28,34}Lys¹⁸-(Aspa-ATet)-GLP-1(7-37); Gly⁸Asp¹⁹Arg^{28,34}Lys¹⁸-(Aspa-ATet)-GLP-1(7-38); Gly8Asp17Arg28,34Lys18-(Aspa-ATet)-GLP-1(7-38);
- Arg^{26,34}Lys²³-(Aspa-ATet)-GLP-1(7-36); Arg^{26,34}Lys²³-(Aspa-ATet)-GLP-1(7-36)amide; Arg^{26,34}Lys²³-(Aspa-ATet)-GLP-1(7-37); _Arg^{25,34}Lys²³-(Aspa-ATet)-GLP-1(7-38); 30 Gly⁸Asp¹⁹Arg^{26,34}Lys²³-(Aspa-ATet)-GLP-1(7-36); Gly⁸Asp¹⁷Arg^{26,34}Lys²³-(Aspa-ATet)-GLP-1(7-36); Gly⁸Asp¹⁹Arg^{26,34}Lys²³-(Aspa-ATet)-GLP-1(7-36)amide; Gly⁸Asp¹⁷Arg^{26,34}Lys²³-(Aspa-ATet)-GLP-1(7-36)amide; Gly⁸Asp¹⁹Arg^{28,34}Lys²³-(Aspa-ATet)-GLP-1(7-37); Gly⁸Asp¹⁹Arg^{28,34}Lys²³-(Aspa-ATet)-GLP-1(7-38); Gly⁸Asp¹⁷Arg^{26,34}Lys²³-(Aspa-ATet)-GLP-1(7-38);

Arg^{26,34}Lys²⁷-(Aspa-ATet)-GLP-1(7-36); Arg^{26,34}Lys²⁷-(Aspa-ATet)-GLP-1(7-36)amide; Arg^{26,34}Lys²⁷-(Aspa-ATet)-GLP-1(7-37); Arg^{26,34}Lys²⁷-(Aspa-ATet)-GLP-1(7-38); Gly⁸Asp¹⁸Arg^{26,34}Lys²⁷-(Aspa-ATet)-GLP-1(7-36); Gly⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Aspa-ATet)-GLP-1(7-36); Gly⁸Asp¹⁹Arg^{28,34}Lys²⁷-(Aspa-ATet)-GLP-1(7-36)amide; Gly⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Aspa-ATet)-GLP-1(7-36)amide; Gly⁸Asp¹⁸Arg^{26,34}Lys²⁷-(Aspa-ATet)-GLP-1(7-37); Gly⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Aspa-ATet)-GLP-1(7-38); Gly⁸Asp¹⁷Arg^{28,34}Lys²⁷-(Aspa-ATet)-GLP-1(7-38); Arg^{26,34}Lys¹⁸-(Aspa-ATet)-GLP-1(7-36); Arg^{26,34}Lys¹⁸-(Aspa-ATet)-GLP-1(7-36)amide; Arg^{28.34}Lys¹⁸-(Aspa-ATet)-GLP-1(7-37); Arg^{26,34}Lys¹⁸-(Aspa-ATet)-GLP-1(7-38); Val⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Aspa-ATet)-GLP-1(7-36); Val⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Aspa-ATet)-GLP-1(7-36); Val⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Aspa-ATet)-GLP-1(7-36)amide; Val⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Aspa-ATet)-GLP-1(7-36)amide; Val⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Aspa-ATet)-GLP-1(7-37); Val⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Aspa-ATet)-GLP-1(7-38); Val⁸Asp¹⁷Arg^{28,34}Lys¹⁸-(Aspa-ATet)-GLP-1(7-38); Arg^{26,34}Lys²³-(Aspa-ATet)-GLP-1(7-36)amide; Arg^{26,34}Lys²³-(Aspa-ATet)-GLP-1(7-36);

 Arg^{26,34}Lys²³-(Aspa-ATet)-GLP-1(7-37);
 Arg^{26,34}Lys²³-(Aspa-ATet)-GLP-1(7-38);

 15
 Val⁸Asp¹⁹Arg^{26,34}Lys²³-(Aspa-ATet)-GLP-1(7-36);
 Val⁸Asp¹⁷Arg^{26,34}Lys²³-(Aspa-ATet)-GLP-1(7-36);

 36);
 Val⁸Asp¹⁹Arg^{26,34}Lys²³-(Aspa-ATet)-GLP-1(7-36)amide;
 Val⁸Asp¹⁷Arg^{26,34}Lys²³-(Aspa-ATet)-GLP-1(7-36)amide;

 GLP-1(7-36)amide;
 Val⁸Asp¹⁹Arg^{26,34}Lys²³-(Aspa-ATet)-GLP-1(7-36)amide;
 Val⁸Asp¹⁷Arg^{26,34}Lys²³-(Aspa-ATet)-GLP-1(7-37);

 Val⁸Asp-19Arg^{26,34}Lys²³-(Aspa-ATet)-GLP-1(7-38);
 Val⁸Asp¹⁹Arg^{26,34}Lys²³-(Aspa-ATet)-GLP-1(7-38);

 Arg^{26,34}Lys²⁷-(Aspa-ATet)-GLP-1(7-36);
 Arg^{26,34}Lys²⁷-(Aspa-ATet)-GLP-1(7-36)amide;

- Arg^{26,34}Lys²⁷-(Aspa-ATet)-GLP-1(7-37); Arg^{26,34}Lys²⁷-(Aspa-ATet)-GLP-1(7-38); Val⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Aspa-ATet)-GLP-1(7-36); Val⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Aspa-ATet)-GLP-1(7-36)amide; Val⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Aspa-ATet)-GLP-1(7-36)amide; Val⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Aspa-ATet)-GLP-1(7-37); Val⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Aspa-ATet)-GLP-1(7-38); Val⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Aspa-ATet)-GLP-1(7-38); Val⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Aspa-ATet)-GLP-1(7-38); Val⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Aspa-ATet)-GLP-1(7-38); Val⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Aspa-ATet)-GLP-1(7-38); Val⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Aspa-ATet)-GLP-1(7-38);
- 25
 Arg^{26,34}Lys¹⁸-(Aspa-ATet)-GLP-1(7-36);
 Arg^{26,34}Lys¹⁸-(Aspa-ATet)-GLP-1(7-36)amide;

 25
 Arg^{26,34}Lys¹⁸-(Aspa-ATet)-GLP-1(7-36);
 Arg^{26,34}Lys¹⁸-(Aspa-ATet)-GLP-1(7-36)amide;

 26
 Arg^{26,34}Lys¹⁸-(Aspa-ATet)-GLP-1(7-37);
 Arg^{26,34}Lys¹⁸-(Aspa-ATet)-GLP-1(7-38);

 27
 Arg^{26,34}Lys¹⁸-(Aspa-ATet)-GLP-1(7-36);
 Arg^{26,34}Lys¹⁸-(Aspa-ATet)-GLP-1(7-38);

 28
 Ser⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Aspa-ATet)-GLP-1(7-36);
 Ser⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Aspa-ATet)-GLP-1(7-36);

 28
 Ser⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Aspa-ATet)-GLP-1(7-36);
 Ser⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Aspa-ATet)-GLP-1(7-36);

 29
 Ser⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Aspa-ATet)-GLP-1(7-36);
 Ser⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Aspa-ATet)-GLP-1(7-36);

 29
 Ser⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Aspa-ATet)-GLP-1(7-36);
 Ser⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Aspa-ATet)-GLP-1(7-37);
- 30 (Aspa-ATet)-GLP-1(7-38); Ser⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Aspa-ATet)-GLP-1(7-38); Arg^{26,34}Lys²³-(Aspa-ATet)-GLP-1(7-36); Arg^{26,34}Lys²³-(Aspa-ATet)-GLP-1(7-37); Ser⁸Asp¹⁹Arg^{26,34}Lys²³-(Aspa-ATet)-GLP-1(7-36); Ser⁸Asp¹⁷Arg^{26,34}Lys²³-(Aspa-ATet)-GLP-1(7-36); Ser⁸Asp¹⁹Arg^{26,34}Lys²³-(Aspa-ATet)-GLP-1(7-36); Ser⁸Asp¹⁹Arg^{26,34}Lys²³-(Aspa-ATet)-GLP-1(7-36); Ser⁸Asp¹⁹Arg^{26,34}Lys²³-(Aspa-ATet)-GLP-1(7-36); Ser⁸Asp¹⁹Arg^{26,34}Lys²³-(Aspa-ATet)-GLP-1(7-36); Ser⁸Asp¹⁹Arg^{26,34}Lys²³-(Aspa-ATet)-GLP-1(7-36); Ser⁸Asp¹⁹Arg^{26,34}Lys²³-(Aspa-ATet)-GLP-1(7-36); Ser⁸Asp¹⁷Arg^{26,34}Lys²³-(Aspa-ATet)-GLP-1(7-36); Ser⁸Asp¹⁹Arg^{26,34}Lys²³-(Aspa-ATet)-GLP-1(7-36); Ser⁸Asp¹⁷Arg^{26,34}Lys²³-(Aspa-ATet)-GLP-1(7-36); Ser⁸Asp¹⁷Arg^{26,34}Lys²³-(Aspa-ATet)-

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GLP-1(7-36)amide; Ser⁸Asp¹⁹Arg^{28,34}Lys²³-(Aspa-ATet)-GLP-1(7-37); Ser⁸Asp¹⁹Arg^{28,34}Lys²³-(Aspa-ATet)-GLP-1(7-38); Ser⁸Asp¹⁷Arg^{26,34}Lys²³-(Aspa-ATet)-GLP-1(7-38);

Arg^{26,34}Lys²⁷-(Aspa-ATet)-GLP-1(7-36); Arg^{26,34}Lys²⁷-(Aspa-ATet)-GLP-1(7-36)amide; Arg^{26,34}Lys²⁷-(Aspa-ATet)-GLP-1(7-37); Arg^{26,34}Lys²⁷-(Aspa-ATet)-GLP-1(7-38); Ser⁸Asp¹⁹Arg^{28,34}Lys²⁷-(Aspa-ATet)-GLP-1(7-36); Ser⁸Asp¹⁷Arg^{28,34}Lys²⁷-(Aspa-ATet)-GLP-1(7-

36); Ser⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Aspa-ATet)-GLP-1(7-36)amide; Ser⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Aspa-ATet)-GLP-1(7-36)amide; Ser⁸Asp¹⁹Arg^{28,34}Lys²⁷-(Aspa-ATet)-GLP-1(7-37); Ser⁸Asp¹⁹Arg^{28,34}Lys²⁷-(Aspa-ATet)-GLP-1(7-38); Ser⁸Asp¹⁷Arg^{26,34}Lvs²⁷-(Aspa-ATet)-GLP-1(7-38);

Arg^{26,34}Lys¹⁸-(Aspa-ATet)-GLP-1(7-36); Arg^{26,34}Lys¹⁸-(Aspa-ATet)-GLP-1(7-36)amide: Arg^{26.34}Lys¹⁸-(Aspa-ATet)-GLP-1(7-37); Arg^{26,34}Lys¹⁸-(Aspa-ATet)-GLP-1(7-38); 10 Thr8Asp19Arg28,34Lys18-(Aspa-ATet)-GLP-1(7-36); Thr8Asp17Arg28,34Lys18-(Aspa-ATet)-GLP-1(7-36); Thr⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Aspa-ATet)-GLP-1(7-36)amide; Thr⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Aspa-ATet)-GLP-1(7-36)amide; Thr⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Aspa-ATet)-GLP-1(7-37); Thr⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Aspa-ATet)-GLP-1(7-38); Thr⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Aspa-ATet)-GLP-1(7-38);

Arg^{26,34}Lys²³-(Aspa-ATet)-GLP-1(7-36); Arg^{26,34}Lys²³-(Aspa-ATet)-GLP-1(7-36)amide; 15 Arg^{26,34}Lys²³-(Aspa-ATet)-GLP-1(7-37); Arg^{26,34}Lys²³-(Aspa-ATet)-GLP-1(7-38); Thr⁸Asp¹⁹Arg^{26,34}Lys²³-(Aspa-ATet)-GLP-1(7-36); Thr⁸Asp¹⁷Arg^{26,34}Lys²³-(Aspa-ATet)-GLP-1(7-36); Thr⁸Asp¹⁹Arg^{28,34}Lys²³-(Aspa-ATet)-GLP-1(7-36)amide; Thr⁸Asp¹⁷Arg^{28,34}Lys²³-(Aspa-ATet)-GLP-1(7-36)amide; Thr⁸Asp¹⁹Arg^{26,34}Lys²³-(Aspa-ATet)-GLP-1(7-37); Thr⁸Asp¹⁹Arg^{26,34}Lys²³-20 (Aspa-ATet)-GLP-1(7-38); Thr⁸Asp¹⁷Arg^{26,34}Lys²³-(Aspa-ATet)-GLP-1(7-38);

Arg^{26,34}Lys²⁷-(Aspa-ATet)-GLP-1(7-36); Arg^{28,34}Lys²⁷-(Aspa-ATet)-GLP-1(7-36)amide; Arg^{26,34}Lys²⁷-(Aspa-ATet)-GLP-1(7-37); Arg^{26,34}Lys²⁷-(Aspa-ATet)-GLP-1(7-38); Thr⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Aspa-ATet)-GLP-1(7-36); Thr⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Aspa-ATet)-GLP-1(7-36); Thr⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Aspa-ATet)-GLP-1(7-36)amide; Thr⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Aspa-ATet)-

25 GLP-1(7-36)amide; Thr⁸Asp¹⁹Arg^{28,34}Lys²⁷-(Aspa-ATet)-GLP-1(7-37); Thr⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Aspa-ATet)-GLP-1(7-38); Thr⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Aspa-ATet)-GLP-1(7-38); Arg²⁶Lys³⁴-(Aspa-AHex)-GLP-1(7-36); Arg³⁴Lys²⁶-(Aspa-AHex)-GLP-1(7-36); Arg^{26,34}Lys³⁶-(Aspa-AHex)-GLP-1(7-36); Arg²⁶Lys³⁴-(Aspa-AHex)-GLP-1(7-36)amide; Arg³⁴ Lys²⁶-(Aspa-AHex)-GLP-1(7-36)amide; Arg^{26,34}Lys³⁶-(Aspa-AHex)-GLP-1(7-36)amide; Arg²⁶ Lys³⁴-(Aspa-AHex)-GLP-1(7-37); Arg³⁴Lys²⁸-(Aspa-AHex)-GLP-1(7-37); Arg^{26,34}Lys³⁶-(Aspa-AHex)-GLP-1(7-30 37); Arg²⁶Lys³⁴-(Aspa-AHex)-GLP-1(7-38); Arg³⁴Lys²⁶-(Aspa-AHex)-GLP-1(7-38); Arg^{26,34}Lys³⁸-(Aspa-AHex)-GLP-1(7-38); Arg²⁶Lys³⁴-(Aspa-AHex)-GLP-1(7-39); Arg³⁴Lys²⁶-(Aspa-AHex)-

GLP-1(7-39); Arg^{26,34}Lvs³⁹-(Aspa-AHex)-GLP-1(7-39);

	91
	Gly ⁸ Arg ²⁶ Lys ³⁴ -(Aspa-AHex)-GLP-1(7-36); Gly ⁸ Arg ³⁴ Lys ²⁶ -(Aspa-AHex)-GLP-1(7-36);
	Gly ^s Arg ^{26,34} Lys ³⁶ -(Aspa-AHex)-GLP-1(7-36); Gly ^s Arg ²⁶ Lys ³⁴ -(Aspa-AHex)-GLP-1(7-36)amide;
·	Gly ⁸ Arg ³⁴ Lys ²⁶ -(Aspa-AHex)-GLP-1(7-36)amide; Gly ⁸ Arg ^{26,34} Lys ³⁶ -(Aspa-AHex)-GLP-1(7-
	36)amide; Gly ^s Arg ²⁶ Lys ³⁴ -(Aspa-AHex)-GLP-1(7-37); Gly ^s Arg ³⁴ Lys ²⁶ -(Aspa-AHex)-GLP-1(7-37);
5	Gly ⁸ Arg ^{26,34} Lys ³⁶ -(Aspa-AHex)-GLP-1(7-37); Gly ⁸ Arg ²⁶ Lys ³⁴ -(Aspa-AHex)-GLP-1(7-38);
	Gly ⁸ Arg ³⁴ Lys ²⁶ -(Aspa-AHex)-GLP-1(7-38) ; Gly ⁸ Arg ^{26,34} Lys ³⁸ -(Aspa-AHex)-GLP-1(7-38);
	Gly ⁸ Arg ²⁶ Lys ³⁴ -(Aspa-AHex)-GLP-1(7-39); Gly ⁸ Arg ³⁴ Lys ²⁶ -(Aspa-AHex)-GLP-1(7-39);
	Gly ⁸ Arg ^{26,34} Lys ³⁹ -(Aspa-AHex)-GLP-1(7-39);
	Val ⁸ Arg ²⁶ Lys ³⁴ -(Aspa-AHex)-GLP-1(7-36); Val ⁸ Arg ³⁴ Lys ²⁶ -(Aspa-AHex)-GLP-1(7-36);
10	Val ^e Arg ^{26,34} Lys ³⁶ -(Aspa-AHex)-GLP-1(7-36); Val ^e Arg ²⁶ Lys ³⁴ -(Aspa-AHex)-GLP-1(7-36)amide;
	Val [®] Arg ³⁴ Lys ²⁶ -(Aspa-AHex)-GLP-1(7-36)amide; Val [®] Arg ^{26,34} Lys ³⁶ -(Aspa-AHex)-GLP-1(7-
	36)amide; Val ^ø Arg ²⁶ Lys ³⁴ -(Aspa-AHex)-GLP-1(7-37); Val ^ø Arg ³⁴ Lys ²⁶ -(Aspa-AHex)-GLP-1(7-37);
	Val [®] Arg ^{26,34} Lys ³⁶ -(Aspa-AHex)-GLP-1(7-37); Val [®] Arg ²⁶ Lys ³⁴ -(Aspa-AHex)-GLP-1(7-38);
	Val ^s Arg ³⁴ Lys ²⁶ -(Aspa-AHex)-GLP-1(7-38) ; Val ^s Arg ^{26,34} Lys ³⁸ -(Aspa-AHex)-GLP-1(7-38);
15	Val ⁸ Arg ²⁶ Lys ³⁴ -(Aspa-AHex)-GLP-1(7-39); Val ⁸ Arg ³⁴ Lys ²⁶ -(Aspa-AHex)-GLP-1(7-39);
	Val [®] Arg ^{28,34} Lys ³⁹ -(Aspa-AHex)-GLP-1(7-39);
	Ser ^a Arg ²⁶ Lys ³⁴ -(Aspa-AHex)-GLP-1(7-36); Ser ^a Arg ³⁴ Lys ²⁶ -(Aspa-AHex)-GLP-1(7-36);
	Ser ⁸ Arg ^{26,34} Lys ³⁶ -(Aspa-AHex)-GLP-1(7-36); Ser ⁸ Arg ²⁶ Lys ³⁴ -(Aspa-AHex)-GLP-1(7-36)amide;
	Ser ⁸ Arg ³⁴ Lys ²⁶ -(Aspa-AHex)-GLP-1(7-36)amide; Ser ⁸ Arg ^{28,34} Lys ³⁶ -(Aspa-AHex)-GLP-1(7-
20	36)amide; Ser ⁸ Arg ²⁶ Lys ³⁴ -(Aspa-AHex)-GLP-1(7-37); Ser ⁸ Arg ³⁴ Lys ²⁶ -(Aspa-AHex)-GLP-1(7-
	37); Ser ⁸ Arg ^{26,34} Lys ³⁶ -(Aspa-AHex)-GLP-1(7-37); Ser ⁸ Arg ²⁶ Lys ³⁴ -(Aspa-AHex)-GLP-1(7-38);
	Ser ⁸ Arg ³⁴ Lys ²⁶ -(Aspa-AHex)-GLP-1(7-38) ; Ser ⁸ Arg ^{26,34} Lys ³⁸ -(Aspa-AHex)-GLP-1(7-38);
	Ser ⁸ Arg ²⁶ Lys ³⁴ -(Aspa-AHex)-GLP-1(7-39); Ser ⁸ Arg ³⁴ Lys ²⁶ -(Aspa-AHex)-GLP-1(7-39);
	Ser ⁸ Arg ^{26,34} Lys ³⁹ -(Aspa-AHex)-GLP-1(7-39);
25	Thr ⁸ Arg ²⁶ Lys ³⁴ -(Aspa-AHex)-GLP-1(7-36); Thr ⁸ Arg ³⁴ Lys ²⁶ -(Aspa-AHex)-GLP-1(7-36);
	Thr ⁸ Arg ^{26,34} Lys ³⁶ -(Aspa-AHex)-GLP-1(7-36); Thr ⁸ Arg ²⁶ Lys ³⁴ -(Aspa-AHex)-GLP-1(7-36)amide;
	Thr ⁸ Arg ³⁴ Lys ²⁶ -(Aspa-AHex)-GLP-1(7-36)amide; Thr ⁸ Arg ^{26,34} Lys ³⁶ -(Aspa-AHex)-GLP-1(7-
	36)amide; Thr ⁸ Arg ²⁶ Lys ³⁴ -(Aspa-AHex)-GLP-1(7-37); Thr ⁸ Arg ³⁴ Lys ²⁶ -(Aspa-AHex)-GLP-1(7-37);
	Thr ⁸ Arg ^{26,34} Lys ³⁶ -(Aspa-AHex)-GLP-1(7-37); Thr ⁸ Arg ²⁶ Lys ³⁴ -(Aspa-AHex)-GLP-1(7-38);
30	Thr ⁸ Arg ³⁴ Lys ³⁶ -(Aspa-AHex)-GLP-1(7-38) ; Thr ⁸ Arg ^{26,34} Lys ³⁸ -(Aspa-AHex)-GLP-1(7-38);
	Thr ⁸ Arg ²⁶ Lys ³⁴ -(Aspa-AHex)-GLP-1(7-39); Thr ⁸ Arg ³⁴ Lys ²⁶ -(Aspa-AHex)-GLP-1(7-39);
	Thr ^a Arg ^{26,24} Lys ³⁹ -(Aspa-AHex)-GLP-1(7-39);
	Gly ⁸ Glu ³⁵ Arg ^{26,34} Lys ³⁶ -(Aspa-AHex)-GLP-1(7-36); Gly ⁸ Glu ³⁵ Arg ^{26,34} Lys ³⁶ -(Aspa-AHex)-GLP-1(7-
	36)amide; Gly ⁸ Glu ³⁵ Arg ^{26,34} Lys ³⁷ -(Aspa-AHex)-GLP-1(7-37); Gly ⁸ Glu ³⁷ Arg ^{26,34} Lys ³⁸ -(Aspa-

AHex)-GLP-1(7-38); Gly⁸Glu³⁸Arg^{26,34}Lys³⁹-(Aspa-AHex)-GLP-1(7-39); Gly⁸Glu³⁵Arg^{26,34}Lys³⁶-Glv⁸Glu³⁵Arg^{28,34}Lys³⁶-(Aspa-AHex)-GLP-1(7-36)amide; (Aspa-AHex)-GLP-1(7-36); Gly⁸Glu³⁸Arg^{26,34}Lys³⁷-(Aspa-AHex)-GLP-1(7-37); Gly⁸Glu³⁷Arg^{26,34}Lys³⁸-(Aspa-AHex)-GLP-1(7-38); Gly^sGlu³⁸Arg^{26,34}Lys³⁹-(Aspa-AHex)-GLP-1(7-39);

Gly⁸Asp³⁵Arg^{28,34}Lys³⁶-(Aspa-AHex)-GLP-1(7-36); Gly⁸Asp³⁵Arg^{26,34}Lys³⁶-(Aspa-AHex)-GLP-1(7-5 Gly⁸Asp³⁷Arg^{26,34}Lys³⁸-(Aspa-Gly⁸Asp³⁶Arg^{26,34}Lys³⁷-(Aspa-AHex)-GLP-1(7-37); 36)amide: AHex)-GLP-1(7-38); Gly⁸Asp³⁸Arg^{26,34}Lys³⁹-(Aspa-AHex)-GLP-1(7-39); Gly⁸Asp³⁵Arg^{26,34}Lys³⁸-Gly⁸Asp³⁵Arg^{26,34}Lys³⁶-(Aspa-AHex)-GLP-1(7-36)amide; (Aspa-AHex)-GLP-1(7-36); Glv⁸Asp³⁶Arg^{26,34}Lys³⁷-(Aspa-AHex)-GLP-1(7-37); Gly⁸Asp³⁷Arg^{26,34}Lys³⁸-(Aspa-AHex)-GLP-1(7-38); Gly⁸Asp³⁸Arg^{26,34}Lys³⁹-(Aspa-AHex)-GLP-1(7-39); 10

- Val[®]Glu³⁵Arg^{28,34}Lys³⁶-(Aspa-AHex)-GLP-1(7-36); Val[®]Glu³⁵Arg^{26,34}Lys³⁶-(Aspa-AHex)-GLP-1(7-36)amide; Val⁸Glu³⁶Arg^{26,34}Lys³⁷-(Aspa-AHex)-GLP-1(7-37); Val⁸Glu³⁷Arg^{26,34}Lys³⁸-(Aspa-AHex)-GLP-1(7-38); Val⁸Glu³⁸Arg^{26,34}Lys³⁹-(Aspa-AHex)-GLP-1(7-39); Val⁸Glu³⁵Arg^{26,34}Lys³⁶-(Aspa-Val⁸Glu³⁵Arg^{26,34}Lys³⁶-(Aspa-AHex)-GLP-1(7-36)amide; AHex)-GLP-1(7-36); Val⁸Glu³⁸Arg^{26,34}Lys³⁷-(Aspa-AHex)-GLP-1(7-37); Val⁸Glu³⁷Arg^{26,34}Lys³⁸-(Aspa-AHex)-GLP-1(7-15
 - 38); Val[®]Glu³⁸Arg^{26,34}Lys³⁹-(Aspa-AHex)-GLP-1(7-39);
 - Val[®]Asp³⁵Arg^{28,34}Lys³⁶-(Aspa-AHex)-GLP-1(7-36); Val[®]Asp³⁵Arg^{26,34}Lys³⁶-(Aspa-AHex)-GLP-1(7-Val⁸Asp³⁶Arg^{26,34}Lys³⁷-(Aspa-AHex)-GLP-1(7-37); Val⁸Asp³⁷Arg^{26,34}Lys³⁸-(Aspa-36)amide: AHex)-GLP-1(7-38); Val⁸Asp³⁸Arg^{26,34}Lys³⁹-(Aspa-AHex)-GLP-1(7-39); Val⁸Asp³⁵Arg^{26,34}Lys³⁸-Val⁸Asp³⁵Arg^{26,34}Lys³⁶-(Aspa-AHex)-GLP-1(7-36)amide; (Aspa-AHex)-GLP-1(7-36);
- Val⁸Asp³⁶Arg^{26,34}Lys³⁷-(Aspa-AHex)-GLP-1(7-37); Val⁸Asp³⁷Arg^{26,34}Lys³⁸-(Aspa-AHex)-GLP-1(7-38); Val⁸Asp³⁸Arg^{26,34}Lys³⁹-(Aspa-AHex)-GLP-1(7-39);

Ser^aGlu³⁵Arg^{28,34}Lys³⁶-(Aspa-AHex)-GLP-1(7-36); Ser^aGlu³⁵Arg^{28,34}Lys³⁶-(Aspa-AHex)-GLP-1(7-

Ser⁸Glu³⁶Arg^{26,34}Lys³⁷-(Aspa-AHex)-GLP-1(7-37); Ser⁸Glu³⁷Arg^{26,34}Lys³⁸-(Aspa-

36)amide;

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AHex)-GLP-1(7-38); Ser^aGlu³⁸Arg^{26,34}Lys³⁹-(Aspa-AHex)-GLP-1(7-39); Ser^aGlu³⁵Arg^{26,34}Lys³⁶-25 Ser⁸Glu³⁵Arg^{26,34}Lys³⁶-(Aspa-AHex)-GLP-1(7-36)amide; (Aspa-AHex)-GLP-1(7-36); Ser⁸Glu³⁶Arg^{26,34}Lys³⁷-(Aspa-AHex)-GLP-1(7-37); Ser⁸Glu³⁷Arg^{26,34}Lys³⁸-(Aspa-AHex)-GLP-1(7-38); Ser^aGlu³⁸Arg^{26,34}Lys³⁹-(Aspa-AHex)-GLP-1(7-39);

Ser⁸Asp³⁵Arg^{26,34}Lys³⁶-(Aspa-AHex)-GLP-1(7-36); Ser⁸Asp³⁵Arg^{26,34}Lys³⁶-(Aspa-AHex)-GLP-1(7-Ser⁸Asp³⁶Arg^{26,34}Lys³⁷-(Aspa-AHex)-GLP-1(7-37); Ser⁸Asp³⁷Arg^{26,34}Lys³⁸-(Aspa-30 36)amide: AHex)-GLP-1(7-38); Ser^aAsp³⁸Arg^{26,34}Lys³⁹-(Aspa-AHex)-GLP-1(7-39); Ser^aAsp³⁵Arg^{28,34}Lys³⁶-Ser⁸Asp³⁵Arg^{26,34}Lys³⁶-(Aspa-AHex)-GLP-1(7-36)amide; (Aspa-AHex)-GLP-1(7-36); Ser⁸Asp³⁶Arg^{26,34}Lys³⁷-(Aspa-AHex)-GLP-1(7-37); Ser⁸Asp³⁷Arg^{26,34}Lys³⁸-(Aspa-AHex)-GLP-1(7-38); Ser⁸Asp³⁸Arg^{26,34}Lys³⁹-(Aspa-AHex)-GLP-1(7-39);

38); Arg^{26,34}Lys²⁷-(Aspa-AHex)-GLP-1(7-36); Arg^{26,34}Lys²⁷-(Aspa-AHex)-GLP-1(7-36)amide; Arg^{26,34}Lys²⁷-(Aspa-AHex)-GLP-1(7-37); Arg^{26,34}Lys²⁷-(Aspa-AHex)-GLP-1(7-38); Gly⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Aspa-AHex)-GLP-1(7-36); Gly⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Aspa-AHex)-GLP-1(7-Gly8Asp17Arg26.34Lys27-(Aspa-Gly⁸Asp¹⁸Arg^{26,34}Lys²⁷-(Aspa-AHex)-GLP-1(7-36)amide; 36): Gly⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Aspa-AHex)-GLP-1(7-37); AHex)-GLP-1(7-36)amide; Gly⁸Asp¹⁹Arg^{28,34}Lys²⁷-(Aspa-AHex)-GLP-1(7-38); Gly⁸Asp¹⁷Arg^{28,34}Lys²⁷-(Aspa-AHex)-GLP-1(7-38);

38); Arg^{26,34}Lys²³-(Aspa-AHex)-GLP-1(7-36)amide; Arg^{26,34}Lys²³-(Aspa-AHex)-GLP-1(7-36); 20 Arg^{26,34}Lys²³-(Aspa-AHex)-GLP-1(7-38); Arg^{26,34}Lys²³-(Aspa-AHex)-GLP-1(7-37); Gly⁸Asp¹⁸Arg^{26,34}Lys²²-(Aspa-AHex)-GLP-1(7-36); Gly⁸Asp¹⁷Arg^{26,34}Lys²³-(Aspa-AHex)-GLP-1(7-Gly8Asp18Arg28.34Lys22-(Aspa-AHex)-GLP-1(7-36)amide; Gly⁸Asp¹⁷Arg^{26,34}Lys²³-(Aspa-36); Gly⁸Asp¹⁹Arg^{26,34}Lys²³-(Aspa-AHex)-GLP-1(7-37); AHex)-GLP-1(7-36)amide; Gly⁸Asp¹⁹Arg^{26,34}Lys²²-(Aspa-AHex)-GLP-1(7-38); Gly⁸Asp¹⁷Arg^{26,34}Lys²³-(Aspa-AHex)-GLP-1(7-25

- Arg^{26,34}Lys¹⁸-(Aspa-AHex)-GLP-1(7-36)amide; Arg^{26,34}Lys¹⁸-(Aspa-AHex)-GLP-1(7-36); Arg^{26,34}Lys¹⁸-(Aspa-AHex)-GLP-1(7-38); Arg^{26,34}Lys¹⁸-(Aspa-AHex)-GLP-1(7-37); Gly⁸Asp¹⁸Arg^{26,34}Lys¹⁸-(Aspa-AHex)-GLP-1(7-36); Gly⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Aspa-AHex)-GLP-1(7-15 Gly⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Aspa-AHex)-GLP-1(7-36)amide; Gly⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Aspa-36); Gly⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Aspa-AHex)-GLP-1(7-37); AHex)-GLP-1(7-36)amide; Gly⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Aspa-AHex)-GLP-1(7-38); Gly⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Aspa-AHex)-GLP-1(7-
- 38); Thr^aGlu³⁸Arg^{28,34}Lys³⁹-(Aspa-AHex)-GLP-1(7-39); Thr⁸Asp³⁵Arg^{26,34}Lys³⁶-(Aspa-AHex)-GLP-1(7-36); Thr⁸Asp³⁵Arg^{26,34}Lys³⁶-(Aspa-AHex)-GLP-1(7-Thr⁸Asp³⁶Arg^{26,34}Lys³⁷-(Aspa-AHex)-GLP-1(7-37); Thr⁸Asp³⁷Arg^{26,34}Lys³⁸-(Aspa-36)amide: AHex)-GLP-1(7-38); Thr^aAsp³⁸Arg^{26,34}Lys³⁹-(Aspa-AHex)-GLP-1(7-39); Thr^aAsp³⁵Arg^{26,34}Lys³⁶-Thr⁸Asp³⁵Arg^{26,34}Lys³⁶-(Aspa-AHex)-GLP-1(7-36)amide; (Aspa-AHex)-GLP-1(7-36); 10 Thr8Asp38Arg26.34Lys37-(Aspa-AHex)-GLP-1(7-37); Thr8Asp37Arg26.34Lys38-(Aspa-AHex)-GLP-1(7-38); Thr⁸Asp³⁸Arg^{26,34}Lys³⁹-(Aspa-AHex)-GLP-1(7-39);
- 93 Thr⁸Glu³⁵Arg^{26,34}Lys³⁶-(Aspa-AHex)-GLP-1(7-36); Thr⁸Glu³⁵Arg^{26,34}Lys³⁶-(Aspa-AHex)-GLP-1(7-Thr⁸Glu³⁸Arg^{28,34}Lys³⁷-(Aspa-AHex)-GLP-1(7-37); Thr⁸Glu³⁷Arg^{26,34}Lys³⁸-(Aspa-36)amide; AHex)-GLP-1(7-38); Thr^aGlu³⁸Arg^{26,34}Lys³⁹-(Aspa-AHex)-GLP-1(7-39); Thr^aGlu³⁵Arg^{26,34}Lys³⁵-Thr^aGlu³⁵Arg^{28,34}Lys³⁶-(Aspa-AHex)-GLP-1(7-36)amide; (Aspa-AHex)-GLP-1(7-36): Thr⁸Glu³⁶Arg^{26,34}Lys³⁷-(Aspa-AHex)-GLP-1(7-37); Thr⁸Glu³⁷Arg^{26,34}Lys³⁸-(Aspa-AHex)-GLP-1(7-5

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Arg26.34Lys18-(Aspa-AHex)-GLP-1(7-36);Arg28.34Lys18-(Aspa-AHex)-GLP-1(7-36)amide;Arg28.34Lys18-(Aspa-AHex)-GLP-1(7-37);Arg28.34Lys18-(Aspa-AHex)-GLP-1(7-38);Val8Asp19Arg28.34Lys18-(Aspa-AHex)-GLP-1(7-36);Val8Asp17Arg28.34Lys18-(Aspa-AHex)-GLP-1(7-36);36);Val8Asp19Arg28.34Lys18-(Aspa-AHex)-GLP-1(7-36)amide;Val8Asp17Arg28.34Lys18-(Aspa-AHex)-GLP-1(7-36);36);Val8Asp19Arg28.34Lys18-(Aspa-AHex)-GLP-1(7-36)amide;Val8Asp17Arg28.34Lys18-(Aspa-AHex)-GLP-1(7-37);36);Val8Asp19Arg28.34Lys18-(Aspa-AHex)-GLP-1(7-38);Val8Asp19Arg28.34Lys18-(Aspa-AHex)-GLP-1(7-37);Val8Asp19Arg28.34Lys18-(Aspa-AHex)-GLP-1(7-38);Val8Asp17Arg26.34Lys18-(Aspa-AHex)-GLP-1(7-37);Val8Asp19Arg28.34Lys18-(Aspa-AHex)-GLP-1(7-38);Val8Asp17Arg26.34Lys18-(Aspa-AHex)-GLP-1(7-37);Val8Asp19Arg28.34Lys18-(Aspa-AHex)-GLP-1(7-38);Val8Asp17Arg26.34Lys18-(Aspa-AHex)-GLP-1(7-38);Val8Asp19Arg28.34Lys18-(Aspa-AHex)-GLP-1(7-38);Val8Asp17Arg26.34Lys18-(Aspa-AHex)-GLP-1(7-38);Val8Asp19Arg28.34Lys18-(Aspa-AHex)-GLP-1(7-38);Val8Asp17Arg26.34Lys18-(Aspa-AHex)-GLP-1(7-38);Val8Asp19Arg28.34Lys18-(Aspa-AHex)-GLP-1(7-38);Val8Asp17Arg26.34Lys18-(Aspa-AHex)-GLP-1(7-38);Val8Asp19Arg28.34Lys18-(Aspa-AHex)-GLP-1(7-38);Val8Asp17Arg26.34Lys18-(Aspa-AHex)-GLP-1(7-38);

Arg26,34Lys23(Aspa-AHex)-GLP-1(7-36);Arg26,34Lys23(Aspa-AHex)-GLP-1(7-36)amide;Arg28,34Lys23(Aspa-AHex)-GLP-1(7-37);Arg26,34Lys23(Aspa-AHex)-GLP-1(7-38);Val8Asp19Arg26,34Lys23(Aspa-AHex)-GLP-1(7-36);Val8Val8Asp17Arg26,34Lys23(Aspa-AHex)-GLP-1(7-38);36);Val8Asp19Arg26,34Lys23(Aspa-AHex)-GLP-1(7-36)amide;Val8</td

Arg^{26,34}Lys²⁷-(Aspa-AHex)-GLP-1(7-36); Arg^{26,34}Lys²⁷-(Aspa-AHex)-GLP-1(7-36)amide; Arg^{26,34}Lys²⁷-(Aspa-AHex)-GLP-1(7-37); Arg^{26,34}Lys²⁷-(Aspa-AHex)-GLP-1(7-38); Val⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Aspa-AHex)-GLP-1(7-36); Val⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Aspa-AHex)-GLP-1(7-36); Val⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Aspa-AHex)-GLP-1(7-36)amide; Val⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Aspa-AHex)-GLP-1(7-37); Val⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Aspa-AHex)-GLP-1(7-37); Val⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Aspa-AHex)-GLP-1(7-37); Val⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Aspa-AHex)-GLP-1(7-37); Val⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Aspa-AHex)-GLP-1(7-38); Val⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Aspa-AHex)-GLP-1(7-37); Val⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Aspa-AHex)-GLP-1(7-38); Val⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Aspa-AHex)-GLP-1(7-38); Val⁸Asp¹⁸-X

 Arg^{26,34}Lys²³-(Aspa-AHex)-GLP-1(7-36);
 Arg^{26,34}Lys²³-(Aspa-AHex)-GLP-1(7-36)amide;

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 Arg^{26,34}Lys²³-(Aspa-AHex)-GLP-1(7-37);
 Arg^{26,34}Lys²³-(Aspa-AHex)-GLP-1(7-38);

 Ser⁸Asp¹⁹Arg^{26,34}Lys²³-(Aspa-AHex)-GLP-1(7-36);
 Ser⁸Asp¹⁷Arg^{26,34}Lys²³-(Aspa-AHex)-GLP-1(7-36);

 36);
 Ser⁸Asp¹⁹Arg^{26,34}Lys²³-(Aspa-AHex)-GLP-1(7-36)amide;
 Ser⁸Asp¹⁷Arg^{26,34}Lys²³-(Aspa-AHex)-GLP-1(7-36)amide;

 AHex)-GLP-1(7-36)amide;
 Ser⁸Asp¹⁹Arg^{26,34}Lys²³-(Aspa-AHex)-GLP-1(7-37);
 Ser⁸Asp¹⁹Arg^{26,34}Lys²³-(Aspa-AHex)-GLP-1(7-37);

38);

Ser⁸Asp¹⁹Arg^{26,34}Lys²³-(Aspa-AHex)-GLP-1(7-38); Ser⁸Asp¹⁷Arg^{26,34}Lys²³-(Aspa-AHex)-GLP-1(7-38);

 $\label{eq:asymptotic} Arg^{26,34}Lys^{27}-(Aspa-AHex)-GLP-1(7-36); Arg^{26,34}Lys^{27}-(Aspa-AHex)-GLP-1(7-36)amide; Arg^{26,34}Lys^{27}-(Aspa-AHex)-GLP-1(7-37); Arg^{26,34}Lys^{27}-(Aspa-AHex)-GLP-1(7-38); Ser^8Asp^{19}Arg^{26,34}Lys^{27}-(Aspa-AHex)-GLP-1(7-36); Ser^8Asp^{17}Arg^{26,34}Lys^{27}-(Aspa-AHex)-GLP-1(7-36); Ser^8Asp^{19}Arg^{26,34}Lys^{27}-(Aspa-AHex)-GLP-1(7-36)amide; Ser^8Asp^{17}Arg^{26,34}Lys^{27}-(Aspa-AHex)-GLP-1(7-37); Ser^8Asp^{19}Arg^{26,34}Lys^{27}-(Aspa-AHex)-GLP-1(7-37); Ser^8Asp^{19}Arg^{26,34}Lys^{27}-($

- Arg^{26,34}Lys¹⁸-(Aspa-AHex)-GLP-1(7-36); Arg^{26,34}Lys¹⁸-(Aspa-AHex)-GLP-1(7-36)amide; Arg^{26,34}Lys¹⁸-(Aspa-AHex)-GLP-1(7-37); Arg^{26,34}Lys¹⁸-(Aspa-AHex)-GLP-1(7-38); Thr⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Aspa-AHex)-GLP-1(7-36); Thr⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Aspa-AHex)-GLP-1(7-36); Thr⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Aspa-AHex)-GLP-1(7-36)amide; Thr⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Aspa-AHex)-GLP-1(7-37); Thr⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Aspa-AHex)-GLP-1(7-37); Thr⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Aspa-AHex)-GLP-1(7-38); Thr⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Aspa-AHex)-GLP-1(7-37);
 Thr⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Aspa-AHex)-GLP-1(7-38); Thr⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Aspa-AHex)-GLP-1(7-37);
- 38); Arg^{26,34}Lys²³-(Aspa-AHex)-GLP-1(7-36); Arg^{26,34}Lys²³-(Aspa-AHex)-GLP-1(7-36); Thr⁸Asp¹⁹Arg^{26,34}Lys²³-(Aspa-AHex)-GLP-1(7-36); Thr⁸Asp¹⁹Arg^{26,34}Lys²³-(Aspa-AHex)-GLP-1(7-36); Thr⁸Asp¹⁹Arg^{26,34}Lys²³-(Aspa-AHex)-GLP-1(7-36)amide; Thr⁸Asp¹⁷Arg^{26,34}Lys²³-(Aspa-AHex)-GLP-1(7-36)amide;

AHex)-GLP-1(7-36)amide;Thr⁸Asp¹⁹Arg^{28,34}Lys²³-(Aspa-AHex)-GLP-1(7-37);Thr⁸Asp¹⁹Arg^{28,34}Lys²³-(Aspa-AHex)-GLP-1(7-38);Thr⁸Asp¹⁷Arg^{28,34}Lys²³-(Aspa-AHex)-GLP-1(7-38);38);

 Arg^{26,34}Lys²⁷-(Aspa-AHex)-GLP-1(7-36);
 Arg^{26,34}Lys²⁷-(Aspa-AHex)-GLP-1(7-36)amide;

 25
 Arg^{26,34}Lys²⁷-(Aspa-AHex)-GLP-1(7-37);
 Arg^{26,34}Lys²⁷-(Aspa-AHex)-GLP-1(7-38);

 Thr⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Aspa-AHex)-GLP-1(7-36);
 Thr⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Aspa-AHex)-GLP-1(7-36);

 36);
 Thr⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Aspa-AHex)-GLP-1(7-36)amide;
 Thr⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Aspa-AHex)-GLP-1(7-36)amide;

 AHex)-GLP-1(7-36)amide;
 Thr⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Aspa-AHex)-GLP-1(7-37);
 Thr⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Aspa-AHex)-GLP-1(7-37);

30 38);

Arg²⁶Lys³⁴-(Aspa-AOct)-GLP-1(7-36); Arg³⁴Lys²⁶-(Aspa-AOct)-GLP-1(7-36); Arg^{26,34}Lys³⁸-(Aspa-AOct)-GLP-1(7-36)amide; Arg³⁴ Lys²⁸-(Aspa-AOct)-GLP-1(7-36)amide; Arg^{26,34}Lys³⁸-(Aspa-AOct)-GLP-1(7-36)amide; Arg²⁶ Lys³⁴-(Aspa-AOct)-GLP-1(7-37); Arg^{26,34}Lys³⁶-(Aspa-AOct)-GLP-1(7-37); Arg^{36,34}Lys³⁶-(Aspa-AOct)-GLP-1(7-37); Arg^{36,34}Lys³⁶-(Aspa-AOct)-GLP-1(7-37); Arg^{36,34}Lys³⁶-(Aspa-AOct)-GLP-1(7-37); Arg^{36,34}Lys^{36,34}-(Aspa-AOct)-GLP-1(7-36)amide; Arg^{36,34}-(Aspa-AOct)-GLP-1(7-36)amide; Arg^{36,34}-(Aspa-AOct)-GLP-1(7-37); Arg^{36,34}-(Aspa-AOct)-GLP-1(7-37); Arg^{36,34}-(Aspa-AOct)-GLP-1(7-36)amide; Arg^{36,34}-(Aspa-AOct)-GLP-1(7-36)amide; Arg^{36,34}-(Aspa-AOct)-Aspa-AOct)-Aspa-AOct)-Aspa-AOct, Arg^{36,34}-(Aspa-AOct)-Aspa-AOct)-Aspa-AOct, Arg^{36,34}-(Aspa-AOct)-Aspa-AOct)-Aspa-AOct, Arg^{36,34}-(Aspa-AOct)-Aspa-AOct)-Aspa-AOct, Arg^{36,34}-(Aspa-AOct)-Aspa-AOct, Arg^{36,34}-(Aspa-AOct)-Aspa-AOct, Arg^{36,34}-(Aspa-AOct)-Aspa-AOc

(Aspa-AOct)-GLP-1(7-38); Arg³⁴Lys²⁶-(Aspa-AOct)-GLP-1(7-38) ; Arg^{26,34}Lys³⁸-(Aspa-AOct)-Arg³⁴Lys²⁶-(Aspa-AOct)-GLP-1(7-39); Arg²⁶Lys³⁴-(Aspa-AOct)-GLP-1(7-39); GLP-1(7-38); Arg^{26,34}Lvs³⁹-(Aspa-AOct)-GLP-1(7-39): Gly⁸Arg²⁶Lys³⁴-(Aspa-AOct)-GLP-1(7-36); Gly⁸Arg³⁴Lys²⁶-(Aspa-AOct)-GLP-1(7-36);

Giv⁸Arg^{26,34}Lys³⁶-(Aspa-AOct)-GLP-1(7-36); Gly⁸Arg²⁶Lys³⁴-(Aspa-AOct)-GLP-1(7-36)amide; 5 Giv⁸Arg³⁴Lys²⁶-(Aspa-AOct)-GLP-1(7-36)amide; Gly8Arg26.34Lys86-(Aspa-AOct)-GLP-1(7-36)amide; Gly⁸Arg²⁶Lys³⁴-(Aspa-AOct)-GLP-1(7-37); Gly⁸Arg³⁴Lys²⁶-(Aspa-AOct)-GLP-1(7-37); Glv⁸Arg^{26,34}Lys³⁶-(Aspa-AOct)-GLP-1(7-37); Gly8Arg26Lys34-(Aspa-AOct)-GLP-1(7-38); Gly⁸Arg³⁴Lys²⁸-(Aspa-AOct)-GLP-1(7-38) Gly8Arg26,34Lys38-(Aspa-AOct)-GLP-1(7-38); Gly⁸Arg²⁶Lys³⁴-(Aspa-AOct)-GLP-1(7-39); Gly⁸Arg³⁴Lys²⁸-(Aspa-AOct)-GLP-1(7-39); Glv⁸Arg^{26,34}Lys³⁹-(Aspa-AOct)-GLP-1(7-39); Val⁸Arg²⁶Lys³⁴-(Aspa-AOct)-GLP-1(7-36); Val⁸Arg³⁴Lys²⁶-(Aspa-AOct)-GLP-1(7-36);

Val⁸Arg^{26,34}Lys³⁶-(Aspa-AOct)-GLP-1(7-36); Val⁸Arg²⁶Lys³⁴-(Aspa-AOct)-GLP-1(7-36)amide; Val8Arg28,34Lys36-(Aspa-AOct)-GLP-1(7-Val[®]Arg³⁴Lys²⁶-(Aspa-AOct)-GLP-1(7-36)amide; 36)amide; Val⁸Arg²⁶Lys³⁴-(Aspa-AOct)-GLP-1(7-37); Val⁸Arg³⁴Lys²⁶-(Aspa-AOct)-GLP-1(7-37); 15 Val8Arg26,34Lys36-(Aspa-AOct)-GLP-1(7-37); Val⁸Arg²⁶Lys³⁴-(Aspa-AOct)-GLP-1(7-38); Val⁸Arg³⁴Lys²⁶-(Aspa-AOct)-GLP-1(7-38) Val⁸Arg^{26,34}Lys³⁸-(Aspa-AOct)-GLP-1(7-38); Val⁸Arg²⁶Lys³⁴-(Aspa-AOct)-GLP-1(7-39); Val⁸Arg³⁴Lys²⁶-(Aspa-AOct)-GLP-1(7-39); Val⁸Arg^{26,34}Lys³⁹-(Aspa-AOct)-GLP-1(7-39): Ser⁸Arg³⁴Lys²⁶-(Aspa-AOct)-GLP-1(7-36); Ser⁸Arg²⁶Lys³⁴-(Aspa-AOct)-GLP-1(7-36); 20

Ser⁸Arg^{26,34}Lys³⁶-(Aspa-AOct)-GLP-1(7-36); Ser⁸Arg²⁶Lys³⁴-(Aspa-AOct)-GLP-1(7-36)amide; Ser⁸Arg³⁴Lys²⁶-(Aspa-AOct)-GLP-1(7-36)amide; Ser8Arg26,34Lys36-(Aspa-AOct)-GLP-1(7-36)amide; Ser⁸Arg²⁶Lys³⁴-(Aspa-AOct)-GLP-1(7-37); Ser⁸Arg³⁴Lys²⁶-(Aspa-AOct)-GLP-1(7-37); Ser⁸Arg^{26,34}Lys³⁶-(Aspa-AOct)-GLP-1(7-37); Ser⁴Arg²⁶Lys³⁴-(Aspa-AOct)-GLP-1(7-38); Ser^aArg³⁴Lys²⁶-(Aspa-AOct)-GLP-1(7-38) Ser⁸Arg^{26,34}Lys³⁸-(Aspa-AOct)-GLP-1(7-38); 25 : Ser⁸Arg²⁶Lys³⁴-(Aspa-AOct)-GLP-1(7-39); Ser⁸Arg³⁴Lys²⁶-(Aspa-AOct)-GLP-1(7-39); Ser⁸Arg^{26,34}Lys³⁹-(Aspa-AOct)-GLP-1(7-39);

Thr8Arg26Lys34-(Aspa-AOct)-GLP-1(7-36); Thr⁸Arg³⁴Lys²⁶-(Aspa-AOct)-GLP-1(7-36); Thr8Arg26,34Lys36-(Aspa-AOct)-GLP-1(7-36); Thr⁸Arg²⁶Lys³⁴-(Aspa-AOct)-GLP-1(7-36)amide; Thr8Arg34Lys26-(Aspa-AOct)-GLP-1(7-36)amide; Thr8Arg26.34Lys36-(Aspa-AOct)-GLP-1(7-30 36)amide; Thr⁸Arg²⁶Lys³⁴-(Aspa-AOct)-GLP-1(7-37); Thr⁸Arg³⁴Lys²⁶-(Aspa-AOct)-GLP-1(7-37); Thr8Arg26,34Lys36-(Aspa-AOct)-GLP-1(7-37); Thr⁸Arg²⁶Lys³⁴-(Aspa-AOct)-GLP-1(7-38); Thr⁸Arg³⁴Lys²⁶-(Aspa-AOct)-GLP-1(7-38) Thr8Arg26,34Lys38-(Aspa-AOct)-GLP-1(7-38);

Ser⁸Asp³⁵Arg^{26,34}Lys³⁶-(Aspa-AOct)-GLP-1(7-36); Ser⁸Asp³⁵Arg^{26,34}Lys³⁶-(Aspa-AOct)-GLP-1(7-Ser⁸Asp³⁷Arg^{26,34}Lys³⁸-(Aspa-Ser⁸Asp³⁶Arg^{26,34}Lys³⁷-(Aspa-AOct)-GLP-1(7-37); 36)amide:

- Ser⁸Glu³⁵Arg^{26,34}Lys³⁶-(Aspa-AOct)-GLP-1(7-36); Ser⁸Glu³⁵Arg^{26,34}Lys³⁶-(Aspa-AOct)-GLP-1(7-36)amide; Ser^aGlu³⁶Arg^{26,34}Lys³⁷-(Aspa-AOct)-GLP-1(7-37); Ser^aGlu³⁷Arg^{26,34}Lys³⁸-(Aspa-AOct)-GLP-1(7-38); Ser⁸Glu³⁸Arg^{26,34}Lys³⁹-(Aspa-AOct)-GLP-1(7-39); Ser⁸Glu³⁵Arg^{26,34}Lys³⁶-(Aspa-AOct)-GLP-1(7-36); Ser^aGlu³⁵Arg^{26,34}Lys³⁶-(Aspa-AOct)-GLP-1(7-36)amide; 30 Ser⁸Glu³⁶Arg^{26,34}Lys³⁷-(Aspa-AOct)-GLP-1(7-37); Ser⁸Glu³⁷Arg^{26,34}Lys³⁸-(Aspa-AOct)-GLP-1(7-38); Ser⁴Glu³⁸Arg^{26,34}Lys³⁹-(Aspa-AOct)-GLP-1(7-39);
- 38); Val⁸Glu³⁸Arg^{26,34}Lys³⁹-(Aspa-AOct)-GLP-1(7-39); 20 Val⁸Asp³⁵Arg^{26,34}Lys³⁶-(Aspa-AOct)-GLP-1(7-36); Val⁸Asp³⁵Arg^{26,34}Lys³⁸-(Aspa-AOct)-GLP-1(7-36)amide; Val⁸Asp³⁶Arg^{26,34}Lys³⁷-(Aspa-AOct)-GLP-1(7-37); Val⁸Asp³⁷Arg^{26,34}Lys³⁸-(Aspa-AOct)-GLP-1(7-38); Val⁸Asp³⁸Arg^{26,34}Lys³⁹-(Aspa-AOct)-GLP-1(7-39); Val⁸Asp³⁵Arg^{26,34}Lys³⁸-(Aspa-Val⁸Asp³⁵Arg^{26,34}Lys³⁶-(Aspa-AOct)-GLP-1(7-36)amide; AOct)-GLP-1(7-36); Val[®]Asp^{3®}Arg^{26,34}Lys³⁷-(Aspa-AOct)-GLP-1(7-37); Val[®]Asp³⁷Arg^{26,34}Lys^{3®}-(Aspa-AOct)-GLP-1(7-25 38); Val⁸Asp³⁸Arg^{26,34}Lys³⁹-(Aspa-AOct)-GLP-1(7-39);
- 38); Gly⁸Asp³⁸Arg^{28,34}Lys³⁹-(Aspa-AOct)-GLP-1(7-39); Val⁸Glu³⁵Arg^{26,34}Lys³⁶-(Aspa-AOct)-GLP-1(7-36); Val⁸Glu³⁵Arg^{26,34}Lys³⁶-(Aspa-AOct)-GLP-1(7-15 36)amide; Val⁸Glu³⁶Arg^{26,34}Lys³⁷-(Aspa-AOct)-GLP-1(7-37); Val⁸Glu³⁷Arg^{26,34}Lys³⁸-(Aspa-AOct)-GLP-1(7-38); Val⁸Glu³⁸Arg^{26,34}Lys³⁹-(Aspa-AOct)-GLP-1(7-39); Val⁸Glu³⁵Arg^{26,34}Lys³⁸-(Aspa-AOct)-GLP-1(7-36); Val⁸Glu³⁵Arg^{26,34}Lys³⁶-(Aspa-AOct)-GLP-1(7-36)amide; Val⁸Glu³⁶Arg^{26,34}Lys³⁷-(Aspa-AOct)-GLP-1(7-37); Val⁸Glu³⁷Arg^{26,34}Lys³⁸-(Aspa-AOct)-GLP-1(7-
- Gly⁸Asp³⁵Arg^{26,34}Lys³⁶-(Aspa-AOct)-GLP-1(7-36); Gly⁸Asp³⁵Arg^{26,34}Lys³⁶-(Aspa-AOct)-GLP-1(7-36)amide; Gly⁸Asp³⁶Arg^{26,34}Lys³⁷-(Aspa-AOct)-GLP-1(7-37); Gly⁸Asp³⁷Arg^{26,34}Lys³⁸-(Aspa-AOct)-10 GLP-1(7-38); Gly⁸Asp³⁸Arg^{26,34}Lys³⁹-(Aspa-AOct)-GLP-1(7-39); Gly⁸Asp³⁵Arg^{26,34}Lys³⁸-(Aspa-Gly⁸Asp³⁵Arg^{28,34}Lys³⁶-(Aspa-AOct)-GLP-1(7-36)amide; AOct)-GLP-1(7-36); Gly⁸Asp³⁶Arg^{26,34}Lys³⁷-(Aspa-AOct)-GLP-1(7-37); Gly⁸Asp³⁷Arg^{26,34}Lys³⁸-(Aspa-AOct)-GLP-1(7-
- 36)amide; Gly⁸Glu³⁸Arg^{26,34}Lys³⁷-(Aspa-AOct)-GLP-1(7-37); Gly⁸Glu³⁷Arg^{26,34}Lys³⁸-(Aspa-AOct)-GLP-1(7-38); Gly⁸Glu³⁸Arg^{26,34}Lys³⁹-(Aspa-AOct)-GLP-1(7-39); Gly⁸Glu³⁵Arg^{26,34}Lys³⁶-(Aspa-5 Glv⁸Glu³⁵Arg^{26,34}Lys³⁶-(Aspa-AOct)-GLP-1(7-36)amide; AOct)-GLP-1(7-36); Gly³Glu³⁶Arg^{26,34}Lys³⁷-(Aspa-AOct)-GLP-1(7-37); Gly⁸Glu³⁷Arg^{26,34}Lys³⁸-(Aspa-AOct)-GLP-1(7-38); Glv⁸Glu³⁸Arg^{28,34}Lys³⁹-(Aspa-AOct)-GLP-1(7-39);
- Thr⁸Arg³⁴Lys²⁶-(Aspa-AOct)-GLP-1(7-39); Thr⁸Arg²⁶Lys³⁴-(Aspa-AOct)-GLP-1(7-39); Thr⁸Arg^{26,34}Lys³⁹-(Aspa-AOct)-GLP-1(7-39); Gly⁸Glu³⁵Arg^{28,34}Lys³⁶-(Aspa-AOct)-GLP-1(7-36); Gly⁸Glu³⁵Arg^{28,34}Lys³⁶-(Aspa-AOct)-GLP-1(7-

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AOct)-GLP-1(7-38); Ser⁸Asp³⁸Arg^{26,34}Lys³⁹-(Aspa-AOct)-GLP-1(7-39); Ser⁸Asp³⁵Arg^{26,34}Lys³⁶-(Aspa-AOct)-GLP-1(7-36); Ser⁸Asp³⁵Arg^{28,34}Lys³⁶-(Aspa-AOct)-GLP-1(7-36)amide; Ser[®]Asp³⁶Arg^{28,34}Lys³⁷-(Aspa-AOct)-GLP-1(7-37); Ser[®]Asp³⁷Arg^{28,34}Lys³⁸-(Aspa-AOct)-GLP-1(7-38); Ser^aAsp³⁸Arg^{28,34}Lys³⁹-(Aspa-AOct)-GLP-1(7-39);

Thr⁸Glu³⁵Arg^{28,34}Lys³⁶-(Aspa-AOct)-GLP-1(7-36); Thr⁸Glu³⁵Arg^{28,34}Lys³⁶-(Aspa-AOct)-GLP-1(7-5 36)amide; Thr^aGlu³⁶Arg^{26,34}Lys³⁷-(Aspa-AOct)-GLP-1(7-37); Thr^aGlu³⁷Arg^{26,34}Lys³⁸-(Aspa-AOct)-GLP-1(7-38); Thr⁸Glu³⁸Arg^{26,34}Lys³⁹-(Aspa-AOct)-GLP-1(7-39); Thr⁸Glu³⁵Arg^{26,34}Lys³⁶-(Aspa-Thr⁸Glu³⁵Arg^{26,34}Lys³⁶-(Aspa-AOct)-GLP-1(7-36)amide; AOct)-GLP-1(7-36); Thr^aGlu³⁶Arg^{26,34}Lys³⁷-(Aspa-AOct)-GLP-1(7-37); Thr^aGlu³⁷Arg^{26,34}Lys³⁸-(Aspa-AOct)-GLP-1(7-38); Thr⁸Glu³⁸Arg^{26,34}Lys³⁹-(Aspa-AOct)-GLP-1(7-39);

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Thr⁸Asp³⁵Arg^{26,34}Lys³⁶-(Aspa-AOct)-GLP-1(7-36); Thr⁸Asp³⁵Arg^{26,34}Lys³⁶-(Aspa-AOct)-GLP-1(7-36)amide; Thr⁸Asp³⁶Arg^{26,34}Lys³⁷-(Aspa-AOct)-GLP-1(7-37); Thr⁸Asp³⁷Arg^{26,34}Lys³⁸-(Aspa-AOct)-GLP-1(7-38); Thr⁸Asp³⁸Arg^{26,34}Lys³⁹-(Aspa-AOct)-GLP-1(7-39); Thr⁸Asp³⁵Arg^{26,34}Lys³⁶-(Aspa-AOct)-GLP-1(7-36); Thr^aAsp³⁵Arg^{26,34}Lys³⁶-(Aspa-AOct)-GLP-1(7-36)amide; Thr⁸Asp³⁶Arg^{26,34}Lys³⁷-(Aspa-AOct)-GLP-1(7-37); Thr⁸Asp³⁷Arg^{28,34}Lys³⁸-(Aspa-AOct)-GLP-1(7-38); Thr⁸Asp³⁸Arg^{26,34}Lys³⁹-(Aspa-AOct)-GLP-1(7-39);

Arg^{26,34}Lys¹⁸-(Aspa-AOct)-GLP-1(7-36); Arg^{28,34}Lys¹⁸-(Aspa-AOct)-GLP-1(7-36)amide; Arg^{26,34}Lys¹⁸-(Aspa-AOct)-GLP-1(7-37); Arg^{26,34}Lys¹⁸-(Aspa-AOct)-GLP-1(7-38); Gly⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Aspa-AOct)-GLP-1(7-36); Gly⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Aspa-AOct)-GLP-1(7-36); Gly⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Aspa-AOct)-GLP-1(7-36)amide; Gly⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Aspa-AOct)-

GLP-1(7-36)amide; Gly⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Aspa-AOct)-GLP-1(7-37); Gly⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Aspa-AOct)-GLP-1(7-38); Gly⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Aspa-AOct)-GLP-1(7-38); Arg^{26,34}Lys²³-(Aspa-AOct)-GLP-1(7-36); Arg^{26,34}Lys²³-(Aspa-AOct)-GLP-1(7-36)amide; Arg^{26,34}Lys²³-(Aspa-AOct)-GLP-1(7-37); Arg^{26,34}Lys²³-(Aspa-AOct)-GLP-1(7-38);

25 Gly⁸Asp¹⁹Arg^{26,34}Lys²³-(Aspa-AOct)-GLP-1(7-36); Gly⁸Asp¹⁷Arg^{26,34}Lys²³-(Aspa-AOct)-GLP-1(7-36); Gly⁸Asp¹⁹Arg^{26,34}Lys²³-(Aspa-AOct)-GLP-1(7-36)amide; Gly⁸Asp¹⁷Arg^{26,34}Lys²³-(Aspa-AOct)-GLP-1(7-36)amide; Gly⁸Asp¹⁹Arg^{26,34}Lys²³-(Aspa-AOct)-GLP-1(7-37); Gly⁸Asp¹⁹Arg^{26,34}Lys²³-(Aspa-AOct)-GLP-1(7-38); Gly⁸Asp¹⁷Arg^{26,34}Lys²³-(Aspa-AOct)-GLP-1(7-38);

Arg^{26,34}Lys²⁷-(Aspa-AOct)-GLP-1(7-36); Arg^{26,34}Lys²⁷-(Aspa-AOct)-GLP-1(7-36)amide; Arg^{26,34}Lys²⁷-(Aspa-AOct)-GLP-1(7-37); Arg^{26,34}Lys²⁷-(Aspa-AOct)-GLP-1(7-38);

Gly⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Aspa-AOct)-GLP-1(7-36); Gly⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Aspa-AOct)-GLP-1(7-36); Gly⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Aspa-AOct)-GLP-1(7-36)amide; Gly⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Aspa-AOct)-GLP-1(7-36)amide; Gly⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Aspa-AOct)-GLP-1(7-37); Gly⁸Asp¹⁹Arg^{28,34}Lys²⁷-(Aspa-AOct)-GLP-1(7-38); Gly8Asp17Arg26.34Lys27-(Aspa-AOct)-GLP-1(7-38);

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Arg^{28,34}Lys¹⁸-(Aspa-AOct)-GLP-1(7-36)amide;

Arg^{26,34}Lys²³-(Aspa-AOct)-GLP-1(7-36)amide;

Arg^{26,34}Lys²⁷-(Aspa-AOct)-GLP-1(7-36)amide;

Arg^{26,34}Lys¹⁸-(Aspa-AOct)-GLP-1(7-36)amide;

Ser⁸Asp¹⁹Arg^{28,34}Lys¹⁸-(Aspa-AOct)-GLP-1(7-37);

Arg^{26,34}Lys²³-(Aspa-AOct)-GLP-1(7-36)amide;

Ser⁸Asp¹⁹Arg^{26,34}Lys²³-(Aspa-AOct)-GLP-1(7-37);

Arg^{26,34}Lys²⁷-(Aspa-AOct)-GLP-1(7-36)amide;

Arg^{26,34}Lys²⁷-(Aspa-AOct)-GLP-1(7-38);

Arg^{25,34}Lys²³-(Aspa-AOct)-GLP-1(7-38);

Arg^{26,34}Lys¹⁸-(Aspa-AOct)-GLP-1(7-38);

Ser⁸Asp¹⁷Arg^{28,34}Lys¹⁸-(Aspa-

Ser⁸Asp¹⁷Arg^{26,34}Lys²³-(Aspa-

Arg^{26,34}Lys²⁷-(Aspa-AOct)-GLP-1(7-38);

Arg^{26,34}Lys²³-(Aspa-AOct)-GLP-1(7-38);

Arg^{26,34}Lys¹⁸-(Aspa-AOct)-GLP-1(7-38);

Val[®]Asp^{1®}Arg^{28,34}Lys^{1®}-(Aspa-AOct)-GLP-1(7-36); Val[®]Asp¹⁷Arg^{26,34}Lys^{1®}-(Aspa-AOct)-GLP-1(7-36); Val[®]Asp^{1®}Arg^{26,34}Lys^{1®}-(Aspa-AOct)-GLP-1(7-36)amide; Val[®]Asp¹⁷Arg^{26,34}Lys^{1®}-(Aspa-AOct)-GLP-1(7-36)amide; Val⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Aspa-AOct)-GLP-1(7-37); Val⁸Asp¹⁹Arg^{26,34}Lys¹⁸-

Val⁸Asp¹⁹Arg^{26,34}Lys²³-(Aspa-AOct)-GLP-1(7-36); Val⁸Asp¹⁷Arg^{26,34}Lys²³-(Aspa-AOct)-GLP-1(7-36); Val[®]Asp¹⁹Arg^{28,34}Lys²³-(Aspa-AOct)-GLP-1(7-36)amide; Val[®]Asp¹⁷Arg^{28,34}Lys²³-(Aspa-AOct)-

GLP-1(7-36)amide; Val⁸Asp¹⁹Arg^{28,34}Lys²³-(Aspa-AOct)-GLP-1(7-37); Val⁸Asp¹⁹Arg^{28,34}Lys²³-

Val[®]Asp¹⁹Arg^{26,34}Lys²⁷-(Aspa-AOct)-GLP-1(7-36); Val[®]Asp¹⁷Arg^{26,34}Lys²⁷-(Aspa-AOct)-GLP-1(7-

36); Val[®]Asp^{1®}Arg^{26,34}Lys²⁷-(Aspa-AOct)-GLP-1(7-36)amide; Val[®]Asp¹⁷Arg^{26,34}Lys²⁷-(Aspa-AOct)-GLP-1(7-36)amide; Val⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Aspa-AOct)-GLP-1(7-37); Val⁸Asp¹⁹Arg^{26,34}Lys²⁷-

Ser⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Aspa-AOct)-GLP-1(7-36); Ser⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Aspa-AOct)-GLP-1(7-

Ser⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Aspa-AOct)-GLP-1(7-38); Ser⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Aspa-AOct)-GLP-1(7-

Ser[®]Asp^{1®}Arg^{26,34}Lys²²-(Aspa-AOct)-GLP-1(7-36); Ser[®]Asp¹⁷Arg^{26,34}Lys²²-(Aspa-AOct)-GLP-1(7-

Ser⁸Asp¹⁹Arg^{26,34}Lys²³-(Aspa-AOct)-GLP-1(7-38); Ser⁸Asp¹⁷Arg^{26,34}Lys²³-(Aspa-AOct)-GLP-1(7-

(Aspa-AOct)-GLP-1(7-38); Val⁸Asp¹⁷Arg^{26,34}Lys¹⁶-(Aspa-AOct)-GLP-1(7-38);

(Aspa-AOct)-GLP-1(7-38); Val⁸Asp¹⁷Arg^{26,34}Lys²²-(Aspa-AOct)-GLP-1(7-38);

(Aspa-AOct)-GLP-1(7-38); Val⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Aspa-AOct)-GLP-1(7-38);

Ser[®]Asp¹⁹Arg^{28,34}Lys¹⁸-(Aspa-AOct)-GLP-1(7-36)amide;

Ser⁸Asp¹⁹Arg^{26,34}Lys²³-(Aspa-AOct)-GLP-1(7-36)amide;

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Arg^{26.34}Lys¹⁸-(Aspa-AOct)-GLP-1(7-36);

Arg^{26,34}Lys¹⁸-(Aspa-AOct)-GLP-1(7-37);

Arg^{26,34}Lys²³-(Aspa-AOct)-GLP-1(7-36); Arg^{26,34}Lys²³-(Aspa-AOct)-GLP-1(7-37);

Arg^{26,34}Lys²⁷-(Aspa-AOct)-GLP-1(7-36);

Arg^{26,34}Lys²⁷-(Aspa-AOct)-GLP-1(7-37);

Arg^{26,34}Lys¹⁸-(Aspa-AOct)-GLP-1(7-36);

Arg^{26,34}Lys¹⁸-(Aspa-AOct)-GLP-1(7-37);

Arg^{26,34}Lys²³-(Aspa-AOct)-GLP-1(7-36);

Arg^{28,34}Lys²³-(Aspa-AOct)-GLP-1(7-37);

Arg^{26,34}Lys²⁷-(Aspa-AOct)-GLP-1(7-36);

Arg^{26,34}Lys²⁷-(Aspa-AOct)-GLP-1(7-37);

AOct)-GLP-1(7-36)amide;

AOct)-GLP-1(7-36)amide;

Gly⁸Arg²⁶Lys³⁴-(Aspa-ALit)-GLP-1(7-36); Gly⁸Arg³⁴Lys²⁶-(Aspa-ALit)-GLP-1(7-36); Gly⁸Arg^{26,34}Lys³⁶-(Aspa-ALit)-GLP-1(7-36); Gly⁸Arg²⁶Lys³⁴-(Aspa-ALit)-GLP-1(7-36)amide; Gly⁸Arg³⁴Lys²⁶-(Aspa-ALit)-GLP-1(7-36)amide; Glv⁸Arg^{26,34}Lys³⁶-(Aspa-ALit)-GLP-1(7-36)amide; Gly⁸Arg²⁶Lys³⁴-(Aspa-ALit)-GLP-1(7-37); Gly⁸Arg³⁴Lys²⁶-(Aspa-ALit)-GLP-1(7-37);

- ALit)-GLP-1(7-39); 30
- Arg²⁶Lys³⁴-(Aspa-ALit)-GLP-1(7-36); Arg³⁴Lys²⁶-(Aspa-ALit)-GLP-1(7-36); Arg^{26,34}Lys³⁶-(Aspa-ALit)-GLP-1(7-36); Arg²⁶Lys³⁴-(Aspa-ALit)-GLP-1(7-36)amide; Arg³⁴ Lys²⁶-(Aspa-ALit)-GLP-1(7-25 36)amide; Arg^{26,34}Lys³⁶-(Aspa-ALit)-GLP-1(7-36)amide; Arg²⁶ Lys³⁴-(Aspa-ALit)-GLP-1(7-37); Arg³⁴Lys²⁶-(Aspa-ALit)-GLP-1(7-37); Arg^{26,34}Lys³⁶-(Aspa-ALit)-GLP-1(7-37); Arg²⁶Lys³⁴-(Aspa-ALit)-GLP-1(7-38); Arg³⁴Lys²⁶-(Aspa-ALit)-GLP-1(7-38); Arg^{26,34}Lys³⁸-(Aspa-ALit)-GLP-1(7-38); Arg²⁶Lys³⁴-(Aspa-ALit)-GLP-1(7-39); Arg³⁴Lys²⁶-(Aspa-ALit)-GLP-1(7-39); Arg^{26,34}Lys³⁹-(Aspa-
- Arg^{26,34}Lys²⁷-(Aspa-AOct)-GLP-1(7-38); Thr⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Aspa-AOct)-GLP-1(7-36); Thr⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Aspa-AOct)-GLP-1(7-20 36); Thr⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Aspa-AOct)-GLP-1(7-36)amide; Thr⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Aspa-AOct)-GLP-1(7-36)amide; Thr⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Aspa-AOct)-GLP-1(7-37); Thr⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Aspa-AOct)-GLP-1(7-38); Thr³Asp¹⁷Arg^{26,34}Lys²⁷-(Aspa-AOct)-GLP-1(7-38);
- (Aspa-AOct)-GLP-1(7-38); Thr³Asp¹⁷Arg^{26,34}Lys²³-(Aspa-AOct)-GLP-1(7-38); Arg^{26,34}Lys²⁷-(Aspa-AOct)-GLP-1(7-36); Arg^{26,34}Lys²⁷-(Aspa-AOct)-GLP-1(7-36)amide; Arg^{26,34}Lys²⁷-(Aspa-AOct)-GLP-1(7-37);
- (Aspa-AOct)-GLP-1(7-38); Thr⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Aspa-AOct)-GLP-1(7-38); Arg^{28,34}Lys²³-(Aspa-AOct)-GLP-1(7-36); Arg^{26,34}Lys²³-(Aspa-AOct)-GLP-1(7-36)amide; Arg^{28,34}Lys²³-(Aspa-AOct)-GLP-1(7-37); Arg^{26,34}Lys²³-(Aspa-AOct)-GLP-1(7-38); Thr⁸Asp¹⁹Arg^{26,34}Lys²²-(Aspa-AOct)-GLP-1(7-36); Thr⁸Asp¹⁷Arg^{26,34}Lys²²-(Aspa-AOct)-GLP-1(7-36); Thr⁸Asp¹⁹Arg^{26,34}Lys²³-(Aspa-AOct)-GLP-1(7-36)amide; Thr⁸Asp¹⁷Arg^{26,34}Lys²³-(Aspa-AOct)-15 GLP-1(7-36)amide; Thr⁸Asp¹⁹Arg^{26,34}Lys²³-(Aspa-AOct)-GLP-1(7-37); Thr⁸Asp¹⁹Arg^{26,34}Lys²³-
- Arg^{26,34}Lys¹⁸-(Aspa-AOct)-GLP-1(7-36); Arg^{26,34}Lys¹⁸-(Aspa-AOct)-GLP-1(7-36)amide; Arg^{26,34}Lys¹⁸-(Aspa-AOct)-GLP-1(7-37); Arg^{26,34}Lys¹⁸-(Aspa-AOct)-GLP-1(7-38); Thr8Asp18Arg26.34Lys18-(Aspa-AOct)-GLP-1(7-36); Thr8Asp17Arg26.34Lys18-(Aspa-AOct)-GLP-1(7-36); Thr⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Aspa-AOct)-GLP-1(7-36)amide; Thr⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Aspa-AOct)-GLP-1(7-36)amide; Thr⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Aspa-AOct)-GLP-1(7-37); Thr⁸Asp¹⁹Arg^{26,34}Lys¹⁸-
- 38); 5

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Ser⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Aspa-AOct)-GLP-1(7-36); Ser⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Aspa-AOct)-GLP-1(7-Ser⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Aspa-AOct)-GLP-1(7-36)amide; Ser⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Aspa-36); AOct)-GLP-1(7-36)amide: Ser⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Aspa-AOct)-GLP-1(7-37): Ser⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Aspa-AOct)-GLP-1(7-38); Ser⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Aspa-AOct)-GLP-1(7-

Thr8Arg34Lys26-(Aspa-ALit)-GLP-1(7-39); Thr³Arg²⁶Lys³⁴-(Aspa-ALit)-GLP-1(7-39); Thr⁸Arg^{26,34}Lys³⁹-(Aspa-ALit)-GLP-1(7-39): Gly⁸Glu³⁵Arg^{26,34}Lys³⁶-(Aspa-ALit)-GLP-1(7-36): Gly8Glu35Arg26,34Lys36-(Aspa-ALit)-GLP-1(7-36)amide; Gly⁸Glu³⁶Arg^{26,34}Lys³⁷-(Aspa-ALit)-GLP-1(7-37); Gly⁸Glu³⁷Arg^{26,34}Lys³⁸-(Aspa-ALit)-30 GLP-1(7-38); Gly8Glu38Arg28,34Lys39-(Aspa-ALit)-GLP-1(7-39); Gly8Glu35Arg28,34Lys38-(Aspa-ALit)-Gly8Glu36Arg26,34Lvs37-Gly⁸Glu³⁵Arg^{26,34}Lys³⁸-(Aspa-ALit)-GLP-1(7-36)amide; GLP-1(7-36): (Aspa-ALit)-GLP-1(7-37); Gly8Glu37Arg28,34Lys38-(Aspa-ALit)-GLP-1(7-38); Gly8Glu38Arg26,34Lys39-(Aspa-ALit)-GLP-1(7-39);

Val⁸Arg²⁶Lys³⁴-(Aspa-ALit)-GLP-1(7-38); Val⁸Arg^{26,34}Lys³⁶-(Aspa-ALit)-GLP-1(7-37); Val⁸Arg^{26,34}Lys³⁸-(Aspa-ALit)-GLP-1(7-38); Val⁸Arg³⁴Lys²⁶-(Aspa-ALit)-GLP-1(7-38) 10 Val⁸Arg³⁴Lys²⁶-(Aspa-ALit)-GLP-1(7-39); Val⁸Arg²⁶Lys³⁴-(Aspa-ALit)-GLP-1(7-39); Val⁸Arg^{26,34}Lys³⁹-(Aspa-ALit)-GLP-1(7-39); Ser⁸Arg³⁴Lys²⁶-(Aspa-ALit)-GLP-1(7-36); Ser⁸Arg²⁶Lys³⁴-(Aspa-ALit)-GLP-1(7-36); Ser⁸Arg²⁶Lys³⁴-(Aspa-ALit)-GLP-1(7-36)amide; Ser⁸Arg^{26,34}Lys³⁸-(Aspa-ALit)-GLP-1(7-36); Ser⁸Arg^{26,34}Lys³⁶-(Aspa-ALit)-GLP-1(7-Ser⁸Arg³⁴Lys²⁶-(Aspa-ALit)-GLP-1(7-36)amide: 15 36)amide; Ser⁸Arg²⁶Lys³⁴-(Aspa-ALit)-GLP-1(7-37); Ser⁸Arg³⁴Lys²⁶-(Aspa-ALit)-GLP-1(7-37); Ser⁸Arg^{26,34}Lys³⁶-(Aspa-ALit)-GLP-1(7-37); Ser⁸Arg²⁶Lys³⁴-(Aspa-ALit)-GLP-1(7-38); Ser⁸Arg^{26,34}Lys³⁸-(Aspa-ALit)-GLP-1(7-38); Ser⁸Arg³⁴Lys²⁶-(Aspa-ALit)-GLP-1(7-38) Ser⁸Arg³⁴Lys²⁶-(Aspa-ALit)-GLP-1(7-39); Ser⁸Arg²⁶Lys³⁴-(Aspa-ALit)-GLP-1(7-39); Ser⁸Arg^{26,34}Lys³⁹-(Aspa-ALit)-GLP-1(7-39); 20 Thr⁸Arg³⁴Lys²⁶-(Aspa-ALit)-GLP-1(7-36); Thr^aArg²⁶Lys³⁴-(Aspa-ALit)-GLP-1(7-36); Thr⁸Arg²⁶Lys³⁴-(Aspa-ALit)-GLP-1(7-36)amide; Thr8Arg26,34Lys36-(Aspa-ALit)-GLP-1(7-36); Thr8Arg26,34Lys36-(Aspa-ALit)-GLP-1(7-Thr⁸Arg³⁴Lys²⁶-(Aspa-ALit)-GLP-1(7-36)amide; 36)amide; Thr⁸Arg²⁶Lys³⁴-(Aspa-ALit)-GLP-1(7-37); Thr⁸Arg³⁴Lys²⁶-(Aspa-ALit)-GLP-1(7-37); Thr^aArg²⁶Lys³⁴-(Aspa-ALit)-GLP-1(7-38); Thr⁸Arg^{26,34}Lys³⁶-(Aspa-ALit)-GLP-1(7-37); 25 Thr^aArg^{26,34}Lys³⁸-(Aspa-ALit)-GLP-1(7-38); Thr⁸Arg³⁴Lys²⁶-(Aspa-ALit)-GLP-1(7-38)

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Gly8Arg28.34Lys39-(Aspa-ALit)-GLP-1(7-39); Val⁸Arg²⁶Lys³⁴-(Aspa-ALit)-GLP-1(7-36); 5 Val⁸Arg²⁶Lys³⁴-(Aspa-ALit)-GLP-1(7-36)amide; Val⁸Arg^{26,34}Lys³⁶-(Aspa-ALit)-GLP-1(7-36); Val⁸Arg³⁴Lys²⁶-(Aspa-ALit)-GLP-1(7-36)amide; 36)amide; Val⁸Arg²⁶Lys³⁴-(Aspa-ALit)-GLP-1(7-37);

Gly8Arg26,34Lys36-(Aspa-ALit)-GLP-1(7-37); Gly⁸Arg³⁴Lys²⁶-(Aspa-ALit)-GLP-1(7-38) Gly⁸Arg²⁶Lys³⁴-(Aspa-ALit)-GLP-1(7-39);

Glv⁸Arg³⁴Lvs²⁶-(Aspa-ALit)-GLP-1(7-39); Val⁸Arg³⁴Lys²⁶-(Aspa-ALit)-GLP-1(7-36);

Val⁸Arg^{26,54}Lys³⁶-(Aspa-ALit)-GLP-1(7-

Val⁸Arg³⁴Lys²⁶-(Aspa-ALit)-GLP-1(7-37);

Gly⁸Arg²⁶Lys³⁴-(Aspa-ALit)-GLP-1(7-38); Glv8Arg26,34Lys38-(Aspa-ALit)-GLP-1(7-38);

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Thr⁸Glu³⁵Arg^{26,34}Lys³⁶-(Aspa-ALit)-GLP-1(7-36); Thr⁸Glu³⁵Arg^{26,34}Lys³⁶-(Aspa-ALit)-GLP-1(7-36)amide; Thr⁸Glu³⁸Arg^{26,34}Lys³⁷-(Aspa-ALit)-GLP-1(7-37); Thr⁸Glu³⁷Arg^{26,34}Lys³⁸-(Aspa-ALit)-GLP-1(7-38); Thr⁸Glu³⁸Arg^{26,34}Lys³⁹-(Aspa-ALit)-GLP-1(7-39); Thr⁸Glu³⁵Arg^{26,34}Lys³⁶-(Aspa-ALit)-GLP-1(7-36); Thr⁸Glu³⁵Arg^{26,34}Lys³⁶-(Aspa-ALit)-GLP-1(7-36)amide; Thr⁸Glu³⁶Arg^{26,34}Lys³⁷-

- 25 Ser⁸Asp³⁵Arg^{26,34}Lys³⁶-(Aspa-ALit)-GLP-1(7-36); Ser⁸Asp³⁵Arg^{26,34}Lys³⁶-(Aspa-ALit)-GLP-1(7-36); Ser⁸Asp³⁵Arg^{26,34}Lys³⁸-(Aspa-ALit)-GLP-1(7-37); Ser⁸Asp³⁵Arg^{26,34}Lys³⁸-(Aspa-ALit)-GLP-1(7-38); Ser⁸Asp³⁵Arg^{26,34}Lys³⁹-(Aspa-ALit)-GLP-1(7-39); Ser⁸Asp³⁵Arg^{26,34}Lys³⁶-(Aspa-ALit)-GLP-1(7-36); Ser⁸Asp³⁵Arg^{26,34}Lys³⁶-(Aspa-ALit)-GLP-1(7-36); Ser⁸Asp³⁵Arg^{26,34}Lys³⁶-(Aspa-ALit)-GLP-1(7-36); Ser⁸Asp³⁵Arg^{26,34}Lys³⁶-(Aspa-ALit)-GLP-1(7-36); Ser⁸Asp³⁵Arg^{26,34}Lys³⁶-(Aspa-ALit)-GLP-1(7-37); Ser⁸Asp³⁵Arg^{26,34}Lys³⁸-(Aspa-ALit)-GLP-1(7-37); Ser⁸Asp³⁵Arg^{26,34}Lys³⁸-(Aspa-ALit)-GLP-1(7-37); Ser⁸Asp³⁵Arg^{26,34}Lys³⁸-(Aspa-ALit)-GLP-1(7-37); Ser⁸Asp³⁵Arg^{26,34}Lys³⁸-(Aspa-ALit)-GLP-1(7-37); Ser⁸Asp³⁵Arg^{26,34}Lys³⁸-(Aspa-ALit)-GLP-1(7-37); Ser⁸Asp³⁶-(Aspa-ALit)-GLP-1(7-39);
- 20 36)amide; Ser⁸Glu³⁶Arg^{26,34}Lys³⁷-(Aspa-ALit)-GLP-1(7-37); Ser⁸Glu³⁷Arg^{26,34}Lys³⁸-(Aspa-ALit)-GLP-1(7-38); Ser⁸Glu³⁸Arg^{26,34}Lys³⁹-(Aspa-ALit)-GLP-1(7-39); Ser⁸Glu³⁵Arg^{26,34}Lys³⁶-(Aspa-ALit)-GLP-1(7-36)amide; Ser⁸Glu³⁶Arg^{26,34}Lys³⁷-(Aspa-ALit)-GLP-1(7-36)amide; Ser⁸Glu³⁶Arg^{26,34}Lys³⁷-(Aspa-ALit)-GLP-1(7-37); Ser⁸Glu³⁷Arg^{26,34}Lys³⁸-(Aspa-ALit)-GLP-1(7-38); Ser⁸Glu³⁸Arg^{26,34}Lys³⁹-(Aspa-ALit)-GLP-1(7-36)amide; Ser⁸Glu³⁶Arg^{26,34}Lys³⁷-(Aspa-ALit)-GLP-1(7-37); Ser⁸Glu³⁸Arg^{26,34}Lys³⁹-(Aspa-ALit)-GLP-1(7-38); Ser⁸Glu³⁸Arg^{26,34}Lys³⁹-(Aspa-ALit)-GLP-1(7-39);
- ALit)-GLP-1(7-36); Val[®]Asp³⁵Arg^{28,34}Lys³⁶-(Aspa-ALit)-GLP-1(7-36)amide; Val[®]Asp³⁸Arg^{28,34}Lys³⁷-(Aspa-ALit)-GLP-1(7-37); Val[®]Asp³⁷Arg^{26,34}Lys³⁸-(Aspa-ALit)-GLP-1(7-38); Val[®]Asp³⁸Arg^{28,34}Lys³⁹-(Aspa-ALit)-GLP-1(7-39); Ser[®]Glu³⁵Arg^{28,34}Lys³⁶-(Aspa-ALit)-GLP-1(7-36); Ser[®]Glu³⁵Arg^{28,34}Lys³⁶-(Aspa-ALit)-GLP-1(7-
- (Aspa-ALit)-GLP-1(7-39);
 Val⁸Asp³⁵Arg^{26,34}Lys³⁶-(Aspa-ALit)-GLP-1(7-36);
 Val⁸Asp³⁵Arg^{26,34}Lys³⁶-(Aspa-ALit)-GLP-1(7-37);
 Val⁸Asp³⁵Arg^{26,34}Lys³⁸-(Aspa-ALit)-GLP-1(7-37);
 Val⁸Asp³⁵Arg^{26,34}Lys³⁸-(Aspa-ALit)-GLP-1(7-39);
 Val⁸Asp³⁵Arg^{26,34}Lys³⁶-(Aspa-ALit)-GLP-1(7-39);
 Val⁸Asp³⁵Arg^{26,34}Lys³⁶-(Aspa-ALit)-GLP-1(7-39);
 Val⁸Asp³⁵Arg^{26,34}Lys³⁶-(Aspa-ALit)-GLP-1(7-39);
 Val⁸Asp³⁵Arg^{26,34}Lys³⁶-(Aspa-ALit)-GLP-1(7-39);
 Val⁸Asp³⁵Arg^{26,34}Lys³⁶-(Aspa-ALit)-GLP-1(7-36)amide;
 Val⁸Asp³⁶Arg^{26,34}Lys³⁷-
- 36)amide; Val⁸Glu³⁶Arg^{26,34}Lys³⁷-(Aspa-ALit)-GLP-1(7-37); Val⁸Glu³⁷Arg^{26,34}Lys³⁸-(Aspa-ALit)-GLP-1(7-38); Val⁸Glu³⁵Arg^{26,34}Lys³⁹-(Aspa-ALit)-GLP-1(7-39); Val⁸Glu³⁵Arg^{26,34}Lys³⁶-(Aspa-ALit)-GLP-1(7-36); Val⁸Glu³⁵Arg^{26,34}Lys³⁸-(Aspa-ALit)-GLP-1(7-36)amide; Val⁸Glu³⁶Arg^{26,34}Lys³⁷-(Aspa-ALit)-GLP-1(7-37); Val⁸Glu³⁶Arg^{26,34}Lys³⁸-(Aspa-ALit)-GLP-1(7-38); Val⁸Glu³⁶Arg^{26,34}Lys³⁸-(Aspa-ALit)-GLP-1(7-38); Val⁸Glu³⁶Arg^{26,34}Lys³⁹-(Aspa-ALit)-GLP-1(7-38); Val⁸Glu³⁶Arg^{26,34}Lys³⁸-(Aspa-ALit)-GLP-1(7-38); Val⁸Glu³⁶Arg^{26,34}Lys³⁹-(Aspa-ALit)-GLP-1(7-38); Val⁸Glu³⁶Arg^{26,34}Lys³⁹-(Aspa-ALit)-Aspa-ALit)-Aspa-Alit)-Aspa-Alit)-Aspa-Alit

38); Gly⁸Asp³⁸Arg^{26,34}Lys³⁹-(Aspa-ALit)-GLP-1(7-39);

Val⁸Glu³⁵Arg^{26,34}Lys³⁶-(Aspa-ALit)-GLP-1(7-36);

 Gly⁸Asp³⁵Arg^{28,34}Lys³⁸-(Aspa-ALit)-GLP-1(7-36);
 Gly⁸Asp³⁵Arg^{28,34}Lys³⁸-(Aspa-ALit)-GLP-1(7-36);

 36)amide;
 Gly⁸Asp³⁶Arg^{28,34}Lys³⁷-(Aspa-ALit)-GLP-1(7-37);
 Gly⁸Asp³⁷Arg^{28,34}Lys³⁸-(Aspa-ALit)-GLP-1(7-39);

 GLP-1(7-38);
 Gly⁸Asp³⁸Arg^{26,34}Lys³⁹-(Aspa-ALit)-GLP-1(7-39);
 Gly⁸Asp³⁵Arg^{28,34}Lys³⁸-(Aspa-ALit)-GLP-1(7-39);

 ALit)-GLP-1(7-36);
 Gly⁸Asp³⁵Arg^{28,34}Lys³⁹-(Aspa-ALit)-GLP-1(7-37);
 Gly⁸Asp³⁵Arg^{28,34}Lys³⁸-(Aspa-ALit)-GLP-1(7-36)amide;

 5
 Gly⁸Asp³⁵Arg^{28,34}Lys³⁷-(Aspa-ALit)-GLP-1(7-37);
 Gly⁸Asp³⁷Arg^{26,34}Lys³⁸-(Aspa-ALit)-GLP-1(7-36)amide;

Val⁸Glu³⁵Arg^{26,34}Lys³⁶-(Aspa-ALit)-GLP-1(7-

(Aspa-ALit)-GLP-1(7-37); Thr^aGlu³⁷Arg^{28,34}Lys³⁸-(Aspa-ALit)-GLP-1(7-38); Thr^aGlu³⁸Arg^{28,34}Lys³⁹-(Aspa-ALit)-GLP-1(7-39);

 Thr⁸Asp³⁵Arg^{26,34}Lys³⁸-(Aspa-ALit)-GLP-1(7-36);
 Thr⁸Asp³⁵Arg^{26,34}Lys³⁸-(Aspa-ALit)-GLP-1(7-36);

 36)amide;
 Thr⁸Asp³⁸Arg^{26,34}Lys³⁷-(Aspa-ALit)-GLP-1(7-37);
 Thr⁸Asp³⁷Arg^{26,34}Lys³⁸-(Aspa-ALit)-GLP-1(7-39);

 GLP-1(7-38);
 Thr⁸Asp³⁸Arg^{26,34}Lys³⁹-(Aspa-ALit)-GLP-1(7-39);
 Thr⁸Asp³⁵Arg^{26,34}Lys³⁸-(Aspa-ALit)-GLP-1(7-39);

 ALit)-GLP-1(7-36);
 Thr⁸Asp³⁵Arg^{26,34}Lys³⁹-(Aspa-ALit)-GLP-1(7-37);
 Thr⁸Asp³⁵Arg^{26,34}Lys³⁸-(Aspa-ALit)-GLP-1(7-36)amide;

 Thr⁸Asp³⁶Arg^{26,34}Lys³⁷-(Aspa-ALit)-GLP-1(7-37);
 Thr⁸Asp³⁷Arg^{26,34}Lys³⁸-(Aspa-ALit)-GLP-1(7-36)amide;

 Arg^{26,34}Lys¹⁸-(Aspa-ALit)-GLP-1(7-36);
 Arg^{26,34}Lys¹⁸-(Aspa-ALit)-GLP-1(7-36)amide;

 10
 Arg^{26,34}Lys¹⁸-(Aspa-ALit)-GLP-1(7-37);
 Arg^{26,34}Lys¹⁸-(Aspa-ALit)-GLP-1(7-38);

 Gly⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Aspa-ALit)-GLP-1(7-36);
 Gly⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Aspa-ALit)-GLP-1(7-36);

 Gly⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Aspa-ALit)-GLP-1(7-36);
 Gly⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Aspa-ALit)-GLP-1(7-36);

 Gly⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Aspa-ALit)-GLP-1(7-36)amide;
 Gly⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Aspa-ALit)-GLP-1(7-36);

 GLP-1(7-36)amide;
 Gly⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Aspa-ALit)-GLP-1(7-37);
 Gly⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Aspa-ALit)-GLP-1(7-37);

 (Aspa-ALit)-GLP-1(7-38); Gly⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Aspa-ALit)-GLP-1(7-38);
 Gly⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Aspa-ALit)-GLP-1(7-38);

38): Thr^aAsp³⁸Arg^{28,34}Lys³⁹-(Aspa-ALit)-GLP-1(7-39);

Arg^{28,34}Lys²³-(Aspa-ALit)-GLP-1(7-36); Arg^{28,34}Lys²³-(Aspa-ALit)-GLP-1(7-36)amide; Arg^{28,34}Lys²³-(Aspa-ALit)-GLP-1(7-37); Gly⁸Asp¹⁹Arg^{26,34}Lys²³-(Aspa-ALit)-GLP-1(7-36); Gly⁸Asp¹⁹Arg^{26,34}Lys²³-(Aspa-ALit)-GLP-1(7-36); Gly⁸Asp¹⁹Arg^{26,34}Lys²³-(Aspa-ALit)-GLP-1(7-36)amide; Gly⁸Asp¹⁹Arg^{26,34}Lys²³-(Aspa-ALit)-GLP-1(7-36)amide; Gly⁸Asp¹⁹Arg^{26,34}Lys²³-(Aspa-ALit)-GLP-1(7-36)amide; Gly⁸Asp¹⁹Arg^{26,34}Lys²³-(Aspa-ALit)-GLP-1(7-36)amide; Gly⁸Asp¹⁹Arg^{26,34}Lys²³-(Aspa-ALit)-GLP-1(7-37); Gly⁸Asp¹⁹Arg^{26,34}Lys²³-(Aspa-ALit)-GLP-1(7-37); Gly⁸Asp¹⁹Arg^{26,34}Lys²³-(Aspa-ALit)-GLP-1(7-38);
 (Aspa-ALit)-GLP-1(7-38); Gly⁸Asp¹⁷Arg^{26,34}Lys²³-(Aspa-ALit)-GLP-1(7-38);

 20 (Aspa-ALit)-GLP-1(7-38); Gly⁸Asp¹⁷Arg^{28,34}Lys²³-(Aspa-ALit)-GLP-1(7-38); Arg^{28,34}Lys²⁷-(Aspa-ALit)-GLP-1(7-36); Arg^{28,34}Lys²⁷-(Aspa-ALit)-GLP-1(7-37); Gly⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Aspa-ALit)-GLP-1(7-36); Gly⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Aspa-ALit)-GLP-1(7-36); Gly⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Aspa-ALit)-GLP-1(7-36); GLP-1(7-36)amide; Gly⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Aspa-ALit)-GLP-1(7-36)amide; Gly⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Aspa-ALit)-GLP-1(7-36)amide; GLP-1(7-36)amide; Gly⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Aspa-ALit)-GLP-1(7-36)amide; GLP-1(7-37); Gly⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Aspa-ALit)-GLP-1(7-37); Gly⁸A

(Aspa-ALit)-GLP-1(7-38); Gly⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Aspa-ALit)-GLP-1(7-38);
 Arg^{28,34}Lys¹⁸-(Aspa-ALit)-GLP-1(7-36);
 Arg^{28,34}Lys¹⁸-(Aspa-ALit)-GLP-1(7-37);
 Arg^{26,34}Lys¹⁸-(Aspa-ALit)-GLP-1(7-37);
 Val⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Aspa-ALit)-GLP-1(7-36);
 Val⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Aspa-ALit)-GLP-1(7-36);
 Val⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Aspa-ALit)-GLP-1(7-36);
 Val⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Aspa-ALit)-GLP-1(7-36);
 Val⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Aspa-ALit)-GLP-1(7-36)amide;
 Val⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Aspa-ALit)-GLP-1(7-36)amide;

 1(7-36)amide;
 Val Asp Arg ^{26,34}Lys¹⁸-(Aspa-ALit)-GLP-1(7-37);
 Val Asp ¹⁹Arg^{26,34}Lys¹⁸-(Aspa-ALit)-GLP-1(7-37);

 ALit)-GLP-1(7-38);
 Val⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Aspa-ALit)-GLP-1(7-38);

 Arg^{26,34}Lys²³-(Aspa-ALit)-GLP-1(7-36);
 Arg^{26,34}Lys²³-(Aspa-ALit)-GLP-1(7-36);

 Arg^{26,34}Lys²³-(Aspa-ALit)-GLP-1(7-37);
 Arg^{26,34}Lys²³-(Aspa-ALit)-GLP-1(7-36);

Val⁸Asp¹⁹Arg^{28,34}Lys²³-(Aspa-ALit)-GLP-1(7-36); Val⁸Asp¹⁷Arg^{28,34}Lys²³-(Aspa-ALit)-GLP-1(7-36); Val⁸Asp¹⁹Arg^{28,34}Lys²³-(Aspa-ALit)-GLP-1(7-36)amide; Val⁸Asp¹⁷Arg^{28,34}Lys²³-(Aspa-ALit)-GLP-1(7-36)amide; Val⁸Asp¹⁹Arg^{28,34}Lys²³-(Aspa-ALit)-GLP-1(7-37); Val⁸Asp¹⁹Arg^{28,34}Lys²³-(Aspa-ALit)-GLP-1(7-38); Val⁸Asp¹⁷Arg^{28,34}Lys²³-(Aspa-ALit)-GLP-1(7-38);

- 5 Arg^{26,34}Lys²⁷-(Aspa-ALit)-GLP-1(7-36); Arg^{26,34}Lys²⁷-(Aspa-ALit)-GLP-1(7-36)amide; Arg^{26,34}Lys²⁷-(Aspa-ALit)-GLP-1(7-37); Arg^{26,34}Lys²⁷-(Aspa-ALit)-GLP-1(7-38); Val⁸Asp¹⁸Arg^{26,34}Lys²⁷-(Aspa-ALit)-GLP-1(7-36); Val⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Aspa-ALit)-GLP-1(7-36); Val⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Aspa-ALit)-GLP-1(7-36); Val⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Aspa-ALit)-GLP-1(7-36); Val⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Aspa-ALit)-GLP-1(7-36); Val⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Aspa-ALit)-GLP-1(7-36); Val⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Aspa-ALit)-GLP-1(7-37); Val⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Aspa-ALit)-GLP-1(7-37); Val⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Aspa-ALit)-GLP-1(7-38);
 10 ALit)-GLP-1(7-38); Val⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Aspa-ALit)-GLP-1(7-38);
 - Arg^{26,34}Lys¹⁸-(Aspa-ALit)-GLP-1(7-36);
 Arg^{28,34}Lys¹⁸-(Aspa-ALit)-GLP-1(7-36)amide;

 Arg^{28,34}Lys¹⁸-(Aspa-ALit)-GLP-1(7-37);
 Arg^{28,34}Lys¹⁸-(Aspa-ALit)-GLP-1(7-38);

 Ser⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Aspa-ALit)-GLP-1(7-36);
 Ser⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Aspa-ALit)-GLP-1(7-38);

 Ser⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Aspa-ALit)-GLP-1(7-36)amide;
 Ser⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Aspa-ALit)-GLP-1(7-36)amide;

 GLP-1(7-36)amide;
 Ser⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Aspa-ALit)-GLP-1(7-37);

 GLP-1(7-36)amide;
 Ser⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Aspa-ALit)-GLP-1(7-37);

 Ser⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Aspa-ALit)-GLP-1(7-37);
 Ser⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Aspa-ALit)-GLP-1(7-38);

 $\label{eq:asymptotic} Arg^{26,34}Lys^{23}-(Aspa-ALit)-GLP-1(7-36); Arg^{26,34}Lys^{23}-(Aspa-ALit)-GLP-1(7-36)amide; Arg^{26,34}Lys^{23}-(Aspa-ALit)-GLP-1(7-38); Ser^8Asp^{19}Arg^{26,34}Lys^{23}-(Aspa-ALit)-GLP-1(7-36); Ser^8Asp^{17}Arg^{26,34}Lys^{23}-(Aspa-ALit)-GLP-1(7-36); Ser^8Asp^{19}Arg^{26,34}Lys^{23}-(Aspa-ALit)-GLP-1(7-36); GLP-1(7-36)amide; Ser^8Asp^{17}Arg^{26,34}Lys^{23}-(Aspa-ALit)-GLP-1(7-36)amide; Ser^8Asp^{17}Arg^{26,34}Lys^{23}-(Aspa-ALit)-GLP-1(7-36)amide; Ser^8Asp^{17}Arg^{26,34}Lys^{23}-(Aspa-ALit)-GLP-1(7-36)amide; Ser^8Asp^{17}Arg^{26,34}Lys^{23}-(Aspa-ALit)-GLP-1(7-36)amide; Ser^8Asp^{18}Arg^{26,34}Lys^{23}-(Aspa-ALit)-GLP-1(7-37); Ser^8Asp^{18}Arg^{26,34}Lys^{23}-(Aspa-ALit)-G$

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5 Ser³Asp¹⁹Arg^{26,34}Lys²⁷-(Aspa-ALit)-GLP-1(7-36); Ser³Asp¹⁷Arg^{26,34}Lys²⁷-(Aspa-ALit)-GLP-1(7-36); Ser³Asp¹⁹Arg^{26,34}Lys²⁷-(Aspa-ALit)-GLP-1(7-36); GLP-1(7-36); Ser³Asp¹⁹Arg^{26,34}Lys²⁷-(Aspa-ALit)-GLP-1(7-37); Ser³Asp¹⁹Arg^{26,34}Lys²⁷-(Aspa-ALit)-GLP-1(7-38); Ser³Asp¹⁹Arg^{26,34}Lys²⁷-(Aspa-ALit)-GLP-1(7-38); Arg^{26,34}Lys¹⁸-(Aspa-ALit)-GLP-1(7-36); Arg^{26,34}Lys¹⁸-(Aspa-ALit)-Arg^{26,34}Lys¹⁸-(Aspa-ALit)-Arg^{26,34}Lys¹⁸-(Aspa-ALit)-Arg^{26,34}Lys¹⁸-(Aspa-ALit)-Arg^{26,34}Lys¹⁸-(Aspa-ALit)-Arg^{26,34}-(Aspa-ALit)-Arg^{26,34}-(Aspa-ALit)-Arg^{26,34}-(Aspa-ALit)-Arg^{26,34}-(Aspa-ALit)-Arg^{26,34}-(Aspa-ALit)-Arg^{26,3}

Arg^{26,34}Lys¹⁸-(Aspa-ALit)-GLP-1(7-37); Arg^{26,34}Lys¹⁸-(Aspa-ALit)-GLP-1(7-38); Thr⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Aspa-ALit)-GLP-1(7-36); Thr⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Aspa-ALit)-GLP-1(7-36); Thr⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Aspa-ALit)-GLP-1(7-36)amide; Thr⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Aspa-ALit)-GLP-1(7-37); Thr⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Aspa-ALit)-GLP-1(7-37); Thr⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Aspa-ALit)-GLP-1(7-38); Thr⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Aspa-ALit)-GLP-1(7-38);

25	Gly ^s Arg ³⁴ Lys ²⁵ -(Glyc-ADod)-GLP-1(7-38) ;	Gly ^s Arg ^{28,34} Lys ³⁸ -(Glyc-ADod)-GLP-1(7-38);
	Gly ^s Arg ²⁶ Lys ³⁴ -(Glyc-ADod)-GLP-1(7-39);	Gly ^s Arg ³⁴ Lys ²⁶ -(Glyc-ADod)-GLP-1(7-39);
	Gly ⁸ Arg ^{26,34} Lys ³⁹ -(Glyc-ADod)-GLP-1(7-39);	
	Val ⁸ Arg ²⁶ Lys ³⁴ -(Glyc-ADod)-GLP-1(7-36);	Val [®] Arg ³⁴ Lys ²⁶ -(Glyc-ADod)-GLP-1(7-36);
	Val ^s Arg ^{26,34} Lys ³⁶ -(Glyc-ADod)-GLP-1(7-36);	Val [®] Arg ²⁶ Lys ³⁴ -(Glyc-ADod)-GLP-1(7-36)amide;
30	Val ^s Arg ³⁴ Lys ²⁶ -(Glyc-ADod)-GLP-1(7-36)amide	; Val ⁸ Arg ^{26,34} Lys ³⁶ -(Glyc-ADod)-GLP-1(7-
	36)amide; Val ⁸ Arg ²⁶ Lys ³⁴ -(Glyc-ADod)-GLP-1(7-37); Val ^s Arg ³⁴ Lys ²⁶ -(Glyc-ADod)-GLP-1(7-37);
	Val ⁸ Arg ^{26,34} Lys ³⁸ -(Glyc-ADod)-GLP-1(7-37);	Val ⁸ Arg ²⁶ Lys ³⁴ -(Glyc-ADod)-GLP-1(7-38);
	; Val ^s Arg ³⁴ Lys ²⁶ -(Glyc-ADod)-GLP-1(7-38	Val ^s Arg ^{25,34} Lys ³⁸ -(Glyc-ADod)-GLP-1(7-38);

- 20
 Gly⁸Arg²⁶Lys³⁴-(Glyc-ADod)-GLP-1(7-36);
 Gly⁸Arg³⁴Lys²⁶-(Glyc-ADod)-GLP-1(7-36);

 Gly⁸Arg^{26,34}Lys³⁶-(Glyc-ADod)-GLP-1(7-36);
 Gly⁸Arg²⁶Lys³⁴-(Glyc-ADod)-GLP-1(7-36)amide;

 Gly⁸Arg³⁴Lys²⁶-(Glyc-ADod)-GLP-1(7-36);
 Gly⁸Arg^{26,34}Lys³⁶-(Glyc-ADod)-GLP-1(7-36)amide;

 Gly⁸Arg^{26,34}Lys²⁶-(Glyc-ADod)-GLP-1(7-36)amide;
 Gly⁸Arg^{26,34}Lys³⁶-(Glyc-ADod)-GLP-1(7-37);

 Gly⁸Arg^{26,34}Lys³⁶-(Glyc-ADod)-GLP-1(7-37);
 Gly⁸Arg³⁴Lys²⁶-(Glyc-ADod)-GLP-1(7-37);

 Gly⁸Arg^{26,34}Lys³⁶-(Glyc-ADod)-GLP-1(7-37);
 Gly⁸Arg²⁶Lys³⁴-(Glyc-ADod)-GLP-1(7-37);
- ADod)-GLP-1(7-36); Arg²⁶Lys³⁴-(Glyc-ADod)-GLP-1(7-36)amide; Arg³⁴ Lys²⁶-(Glyc-ADod)-GLP-1(7-36)amide; Arg^{28,34}Lys³⁶-(Glyc-ADod)-GLP-1(7-36)amide; Arg²⁶ Lys³⁴-(Glyc-ADod)-GLP-1(7-37); Arg³⁴Lys²⁸-(Glyc-ADod)-GLP-1(7-37); Arg^{26,34}Lys³⁶-(Glyc-ADod)-GLP-1(7-37); Arg²⁶Lys³⁴-(Glyc-ADod)-GLP-1(7-38); Arg³⁴Lys²⁶-(Glyc-ADod)-GLP-1(7-38) ; Arg^{26,34}Lys³⁸-(Glyc-ADod)-GLP-1(7-38); Arg²⁶Lys³⁴-(Glyc-ADod)-GLP-1(7-39); Arg³⁴Lys²⁶-(Glyc-ADod)-GLP-1(7-39); Arg^{26,34}Lys³⁹-(Glyc-ADod)-GLP-1(7-39);
- 36); Thr⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Aspa-ALit)-GLP-1(7-36)amide; Thr⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Aspa-ALit)-GLP-1(7-36)amide; Thr⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Aspa-ALit)-GLP-1(7-37); Thr⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Aspa-ALit)-GLP-1(7-38); Arg²⁶Lys³⁴-(Glyc-ADod)-GLP-1(7-36); Arg^{26,34}Lys²⁶-(Glyc-ADod)-GLP-1(7-36); Arg^{26,34}Lys³⁶-(Glyc-ADod)-GLP-1(7-36); Arg^{26,34}Lys³⁶-(Glyc-ADod)-GLP-1(7-36); Arg^{26,34}Lys²⁶-(Glyc-ADod)-GLP-1(7-36); Arg^{26,34}Lys³⁶-(Glyc-ADod)-GLP-1(7-36); Arg³⁶-(Glyc-ADod)-GLP-1(7-36); Arg³⁶-(Glyc-ADod)-ADD-1(7-36); Arg³⁶-(Glyc-ADod)-ADD-1(7-36); Arg³⁶-(Glyc-ADD-1(7-36); Arg³⁶-(Glyc-ADD-1(7-36)); Arg³⁶-(Glyc-ADD-1(7-36)); Arg³⁶-(Glyc-ADD-1(7-36)); Arg³⁶-(Glyc-ADD-1(7-36)); Arg³⁶-(Glyc-ADD-1(7-36)); Arg³⁶-(Gl
- 36); Thr⁸Asp¹⁹Arg^{26,34}Lys²³-(Aspa-ALit)-GLP-1(7-36)amide; Thr⁹Asp¹⁹Arg^{26,34}Lys²³-(Aspa-ALit)-GLP-1(7-37); Thr⁸Asp¹⁹Arg^{26,34}Lys²³-(Aspa-ALit)-GLP-1(7-37); Thr⁸Asp¹⁹Arg^{26,34}Lys²³-(Aspa-ALit)-GLP-1(7-38);
 Arg^{26,34}Lys²⁷-(Aspa-ALit)-GLP-1(7-36); Arg^{26,34}Lys²⁷-(Aspa-ALit)-GLP-1(7-36)amide;
 Arg^{26,34}Lys²⁷-(Aspa-ALit)-GLP-1(7-37); Arg^{26,34}Lys²⁷-(Aspa-ALit)-GLP-1(7-38);
 Thr⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Aspa-ALit)-GLP-1(7-37); Thr⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Aspa-ALit)-GLP-1(7-38);
- Arg^{26,34}Lys²³-(Aspa-ALit)-GLP-1(7-36);
 Arg^{26,34}Lys²³-(Aspa-ALit)-GLP-1(7-36)amide;

 Arg^{26,34}Lys²³-(Aspa-ALit)-GLP-1(7-37);
 Arg^{26,34}Lys²³-(Aspa-ALit)-GLP-1(7-38);

 Thr⁸Asp¹⁹Arg^{26,34}Lys²³-(Aspa-ALit)-GLP-1(7-36);
 Thr⁸Asp¹⁷Arg^{28,34}Lys²³-(Aspa-ALit)-GLP-1(7-38);

 36);
 Thr⁸Asp¹⁸Arg^{26,34}Lys²³-(Aspa-ALit)-GLP-1(7-36)amide;

 GLP-1(7-36)amide;
 Thr⁸Asp¹⁹Arg^{26,34}Lys²³-(Aspa-ALit)-GLP-1(7-36)amide;

38); Gly⁸Asp³⁸Arg^{26,34}Lys³⁹-(Glyc-ADod)-GLP-1(7-39);
Val⁸Glu³⁵Arg^{26,34}Lys³⁸-(Glyc-ADod)-GLP-1(7-36); Val⁸Glu³⁵Arg^{26,34}Lys³⁸-(Glyc-ADod)-GLP-1(7-37); Val⁸Glu³⁷Arg^{26,34}Lys³⁸-(Glyc-ADod)-GLP-1(7-38); Val⁸Glu³⁸Arg^{26,34}Lys³⁹-(Glyc-ADod)-GLP-1(7-39); Val⁸Glu³⁵Arg^{26,34}Lys³⁶-(Glyc-ADod)-GLP-1(7-36); Val⁸Glu³⁵Arg^{26,34}Lys³⁶-(Glyc-ADod)-GLP-1(7-36);

- So, Gly Glu Alg * Lys * (GlyC-ADod)-GLP-1(7-36); Gly⁸Asp³⁵Arg^{26,34}Lys³⁶-(Glyc-ADod)-GLP-1(7-36); Gly⁸Asp³⁵Arg^{26,34}Lys³⁸-(Glyc-ADod)-GLP-1(7-37); Gly⁸Asp³⁷Arg^{28,34}Lys³⁸-(Glyc-ADod)-GLP-1(7-38); Gly⁸Asp³⁸Arg^{26,34}Lys³⁹-(Glyc-ADod)-GLP-1(7-39); Gly⁸Asp³⁵Arg^{26,34}Lys³⁶-(Glyc-ADod)-GLP-1(7-36); Gly⁸Asp³⁵Arg^{26,34}Lys³⁶-(Glyc-ADod)-GLP-1(7-36); Gly⁸Asp³⁵Arg^{26,34}Lys³⁶-(Glyc-ADod)-GLP-1(7-36); Gly⁸Asp³⁵Arg^{26,34}Lys³⁶-(Glyc-ADod)-GLP-1(7-36)amide; Gly⁸Asp³⁶Arg^{26,34}Lys³⁷-(Glyc-ADod)-GLP-1(7-37); Gly⁸Asp³⁵Arg^{26,34}Lys³⁸-(Glyc-ADod)-GLP-1(7-36)amide; Gly⁸Asp³⁶Arg^{26,34}Lys³⁷-(Glyc-ADod)-GLP-1(7-37); Gly⁸Asp³⁷Arg^{26,34}Lys³⁸-(Glyc-ADod)-GLP-1(7-39); 38); Gly⁸Asp³⁸Arg^{26,34}Lys³⁹-(Glyc-ADod)-GLP-1(7-39);
- Thr⁸Arg^{26,34}Lys³⁵-(Glyc-ADod)-GLP-1(7-39); Gly⁸Glu³⁵Arg^{26,34}Lys³⁶-(Glyc-ADod)-GLP-1(7-36); Gly⁸Glu³⁵Arg^{26,34}Lys³⁶-(Glyc-ADod)-GLP-1(7-36)amide; Gly⁸Glu³⁶Arg^{26,34}Lys³⁷-(Glyc-ADod)-GLP-1(7-37); Gly⁸Glu³⁷Arg^{26,34}Lys³⁸-(Glyc-ADod)-GLP-1(7-38); Gly⁸Glu³⁸Arg^{26,34}Lys³⁹-(Glyc-ADod)-GLP-1(7-39); Gly⁸Glu³⁵Arg^{26,34}Lys³⁶-(Glyc-ADod)-GLP-1(7-36); Gly⁸Glu³⁵Arg^{26,34}Lys³⁶-(Glyc-ADod)-GLP-1(7-36)amide; Gly⁸Glu³⁶Arg^{26,34}Lys³⁷-(Glyc-ADod)-GLP-1(7-37); Gly⁸Glu³⁷Arg^{26,34}Lys³⁸-(Glyc-ADod)-GLP-1(7-38); Gly⁸Glu³⁸Arg^{26,34}Lys³⁹-(Glyc-ADod)-GLP-1(7-39);
- Thr⁸Arg^{26,34}Lys³⁸-(Glyc-ADod)-GLP-1(7-36);
 Thr⁸Arg²⁶Lys³⁴-(Glyc-ADod)-GLP-1(7-36)amide;

 Thr⁸Arg³⁴Lys²⁶-(Glyc-ADod)-GLP-1(7-36)amide;
 Thr⁸Arg^{26,34}Lys³⁶-(Glyc-ADod)-GLP-1(7-36)amide;

 36)amide;
 Thr⁸Arg²⁶Lys³⁴-(Glyc-ADod)-GLP-1(7-37);

 15
 Thr⁸Arg^{26,34}Lys³⁶-(Glyc-ADod)-GLP-1(7-37);

 15
 Thr⁸Arg^{26,34}Lys³⁶-(Glyc-ADod)-GLP-1(7-37);

 15
 Thr⁸Arg^{26,34}Lys³⁶-(Glyc-ADod)-GLP-1(7-37);

 16
 Thr⁸Arg^{26,34}Lys³⁶-(Glyc-ADod)-GLP-1(7-37);

 17
 Thr⁸Arg^{26,34}Lys³⁶-(Glyc-ADod)-GLP-1(7-38);

 Thr⁸Arg²⁶Lys³⁴-(Glyc-ADod)-GLP-1(7-38);
 Thr⁸Arg^{26,34}Lys²⁶-(Glyc-ADod)-GLP-1(7-38);

 Thr⁸Arg^{26,34}Lys³⁹-(Glyc-ADod)-GLP-1(7-39);
 Thr⁸Arg³⁴Lys²⁶-(Glyc-ADod)-GLP-1(7-39);
- Ser⁸Arg²⁶Lys³⁴-(Glyc-ADod)-GLP-1(7-36)amide; Ser⁸Arg^{26.34}Lys³⁶-(Glyc-ADod)-GLP-1(7-36); Ser⁸Arg^{26,34}Lys³⁶-(Glyc-ADod)-GLP-1(7-Ser⁸Arg³⁴Lys²⁶-(Glyc-ADod)-GLP-1(7-36)amide; 5 36)amide; Ser⁸Arg²⁶Lys³⁴-(Glyc-ADod)-GLP-1(7-37); Ser⁸Arg³⁴Lys²⁶-(Glyc-ADod)-GLP-1(7-37); Ser⁸Arg^{26,34}Lys³⁶-(Glyc-ADod)-GLP-1(7-37); Ser^aArg²⁶Lys³⁴-(Glyc-ADod)-GLP-1(7-38); Ser⁸Arg³⁴Lys²⁶-(Glyc-ADod)-GLP-1(7-38) Ser⁸Arg^{26,34}Lys³⁸-(Glyc-ADod)-GLP-1(7-38); Ser⁸Arg³⁴Lys²⁶-(Glyc-ADod)-GLP-1(7-39); Ser⁸Arg²⁶Lys³⁴-(Glyc-ADod)-GLP-1(7-39); Ser⁸Arg^{26,34}Lys³⁹-(Glyc-ADod)-GLP-1(7-39); 10 Thr³Arg²⁶Lys³⁴-(Glyc-ADod)-GLP-1(7-36); Thr⁸Arg³⁴Lys²⁸-(Glyc-ADod)-GLP-1(7-36);

Val⁸Arg³⁴Lys²⁶-(Glyc-ADod)-GLP-1(7-39);

Ser⁸Arg³⁴Lys²⁸-(Glyc-ADod)-GLP-1(7-36);

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Val⁸Arg²⁶Lys³⁴-(Glyc-ADod)-GLP-1(7-39); Val⁸Arg^{26,34}Lys³⁹-(Glyc-ADod)-GLP-1(7-39); Ser⁸Arg²⁶Lys³⁴-(Glyc-ADod)-GLP-1(7-36); Val⁸Glu³⁶Arg^{26,34}Lys³⁷-(Glyc-ADod)-GLP-1(7-37); Val⁸Glu³⁷Arg^{26,34}Lys³⁸-(Glyc-ADod)-GLP-1(7-38): Val⁸Glu³⁸Arg^{26,34}Lys³⁹-(Glyc-ADod)-GLP-1(7-39);

Val⁸Asp³⁵Arg^{26,34}Lys³⁶-(Glyc-ADod)-GLP-1(7-36); Val⁸Asp³⁵Arg^{26,34}Lys³⁶-(Glyc-ADod)-GLP-1(7-36)amide; Val[®]Asp^{3®}Arg^{26,34}Lys³⁷-(Glyc-ADod)-GLP-1(7-37); Val[®]Asp³⁷Arg^{26,34}Lys³⁸-(Glyc-ADod)-

- GLP-1(7-38); Val⁸Asp³⁸Arg^{26,34}Lys³⁹-(Glyc-ADod)-GLP-1(7-39); Val⁸Asp³⁵Arg^{26,34}Lys³⁶-(Glyc-5 Val⁸Asp³⁵Arg^{26,34}Lys³⁶-(Glyc-ADod)-GLP-1(7-36)amide; ADod)-GLP-1(7-36); Val⁸Asp³⁶Arg^{26,34}Lys³⁷-(Glyc-ADod)-GLP-1(7-37); Val⁸Asp³⁷Arg^{26,34}Lys³⁸-(Glyc-ADod)-GLP-1(7-38); Val⁸Asp³⁸Arg^{28,34}Lys³⁹-(Glyc-ADod)-GLP-1(7-39);
- Ser⁸Glu³⁵Arg^{26,34}Lys³⁶-(Glyc-ADod)-GLP-1(7-36); Ser⁸Glu³⁵Arg^{26,34}Lys³⁸-(Glyc-ADod)-GLP-1(7-36)amide: Ser⁸Glu³⁶Arg^{26,34}Lys³⁷-(Glyc-ADod)-GLP-1(7-37); Ser⁸Glu³⁷Arg^{26,34}Lys³⁸-(Glyc-ADod)-10 GLP-1(7-38); Ser⁸Glu³⁸Arg^{26,34}Lys³⁹-(Glyc-ADod)-GLP-1(7-39); Ser⁸Glu³⁵Arg^{26,34}Lys³⁶-(Glyc-Ser⁸Glu³⁵Arg^{26,34}Lys³⁶-(Glyc-ADod)-GLP-1(7-36)amide; ADod)-GLP-1(7-36); Ser^aGlu³⁶Arg^{26,34}Lys³⁷-(Glyc-ADod)-GLP-1(7-37); Ser^aGlu³⁷Arg^{26,34}Lys³⁸-(Glyc-ADod)-GLP-1(7-38); Ser⁸Glu³⁸Arg^{26,34}Lys³⁹-(Glyc-ADod)-GLP-1(7-39);
- Ser⁸Asp³⁵Arg^{26,34}Lys³⁶-(Glyc-ADod)-GLP-1(7-36); Ser⁸Asp³⁵Arg^{26,34}Lys³⁶-(Glyc-ADod)-GLP-1(7-15 Ser⁸Asp³⁶Arg^{26,34}Lys³⁷-(Glyc-ADod)-GLP-1(7-37); Ser⁸Asp³⁷Arg^{26,34}Lys³⁸-(Glyc-36)amide: ADod)-GLP-1(7-38); Ser^aAsp³⁸Arg^{26,34}Lys³⁹-(Glyc-ADod)-GLP-1(7-39); Ser^aAsp³⁵Arg^{26,34}Lys³⁵-(Glyc-ADod)-GLP-1(7-36); Ser⁸Asp³⁵Arg^{26,34}Lys³⁶-(Glyc-ADod)-GLP-1(7-36)amide; Ser⁸Asp³⁶Arg^{26,34}Lys³⁷-(Glyc-ADod)-GLP-1(7-37); Ser⁸Asp³⁷Arg^{26,34}Lys³⁸-(Glyc-ADod)-GLP-1(7-
- 38); Ser⁸Asp³⁸Arg^{26,34}Lys³⁹-(Glyc-ADod)-GLP-1(7-39); 20 Thr⁸Glu³⁵Arg^{26,34}Lys³⁶-(Glyc-ADod)-GLP-1(7-36); Thr⁸Glu³⁵Arg^{26,34}Lys³⁶-(Glyc-ADod)-GLP-1(7-36)amide; Thr^aGlu³⁶Arg^{26,34}Lys³⁷-(Glyc-ADod)-GLP-1(7-37); Thr^aGlu³⁷Arg^{26,34}Lys³⁸-(Glyc-ADod)-GLP-1(7-38); Thr^aGlu³⁸Arg^{28,34}Lys³⁹-(Glyc-ADod)-GLP-1(7-39); Thr^aGlu³⁵Arg^{26,34}Lys³⁶-(Glyc-Thr⁸Glu³⁵Arg^{26,34}Lys³⁶-(Glyc-ADod)-GLP-1(7-36)amide; ADod)-GLP-1(7-36); Thr⁸Glu³⁶Arg^{26,34}Lys³⁷-(Glyc-ADod)-GLP-1(7-37); Thr⁸Glu³⁷Arg^{28,34}Lys³⁸-(Glyc-ADod)-GLP-1(7-25
- 38); Thr⁸Glu³⁸Arg^{26,34}Lys³⁹-(Glyc-ADod)-GLP-1(7-39); Thr8Asp35Arg26,34Lys36-(Glyc-ADod)-GLP-1(7-36); Thr8Asp35Arg26,34Lys36-(Glyc-ADod)-GLP-1(7-36)amide; Thr⁸Asp³⁶Arg^{26,34}Lys³⁷-(Glyc-ADod)-GLP-1(7-37); Thr⁸Asp³⁷Arg^{26,34}Lys³⁸-(Glyc-ADod)-GLP-1(7-38); Thr⁸Asp³⁸Arg^{26,34}Lys³⁹-(Glyc-ADod)-GLP-1(7-39); Thr⁸Asp³⁵Arg^{26,34}Lys³⁶-(Glyc-ADod)-GLP-1(7-36); Thr⁸Asp³⁵Arg^{26,34}Lys³⁶-(Glyc-ADod)-GLP-1(7-36)amide; 30 Thr8Asp38Arg28.34Lys37-(Glyc-ADod)-GLP-1(7-37); Thr8Asp37Arg28.34Lys38-(Glyc-ADod)-GLP-1(7-

38); Thr⁸Asp³⁸Arg^{28,34}Lys³⁹-(Glyc-ADod)-GLP-1(7-39);

Arg^{26,34}Lys¹⁸-(Glyc-ADod)-GLP-1(7-36)amide; Arg^{26,34}Lys¹⁸-(Glyc-ADod)-GLP-1(7-36); Arg^{26,34}Lys¹⁸-(Glyc-ADod)-GLP-1(7-38); Arg^{26,34}Lys¹⁸-(Glyc-ADod)-GLP-1(7-37);

 Arg^{26,34}Lys²⁷-(Glyc-ADod)-GLP-1(7-36);
 Arg^{26,34}Lys²⁷-(Glyc-ADod)-GLP-1(7-36)amide;

 30
 Arg^{26,34}Lys²⁷-(Glyc-ADod)-GLP-1(7-37);
 Arg^{26,34}Lys²⁷-(Glyc-ADod)-GLP-1(7-38);

 Val⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glyc-ADod)-GLP-1(7-36);
 Val⁸Asp¹⁷Arg^{28,34}Lys²⁷-(Glyc-ADod)-GLP-1(7-36);

 36);
 Val⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glyc-ADod)-GLP-1(7-36)amide;
 Val⁸Asp¹⁷Arg^{28,34}Lys²⁷-(Glyc-ADod)-GLP-1(7-36);

 GLP-1(7-36)amide;
 Val⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glyc-ADod)-GLP-1(7-36)amide;
 Val⁸Asp¹⁹Arg^{28,34}Lys²⁷-(Glyc-ADod)-GLP-1(7-37);

 Val⁹Asp¹⁹Arg^{26,34}Lys²⁷-(Glyc-ADod)-GLP-1(7-36)amide;
 Val⁸Asp¹⁹Arg^{28,34}Lys²⁷-(Glyc-ADod)-GLP-1(7-37);
 Val⁸Asp¹⁹Arg^{28,34}Lys²⁷-(Glyc-ADod)-GLP-1(7-38);

- Val⁸Asp¹⁹Arg^{26,34}Lys²³-(Glyc-ADod)-GLP-1(7-36); Val⁸Asp¹⁷Arg^{26,34}Lys²³-(Glyc-ADod)-GLP-1(7-36); Val⁸Asp¹⁹Arg^{26,34}Lys²³-(Glyc-ADod)-GLP-1(7-36)amide; Val⁸Asp¹⁹Arg^{26,34}Lys²³-(Glyc-ADod)-GLP-1(7-37); Val⁸Asp¹⁹Arg^{26,34}Lys²³-(Glyc-ADod)-GLP-1(7-37); Val⁸Asp¹⁹Arg^{26,34}Lys²³-(Glyc-ADod)-GLP-1(7-38); Val⁸Asp¹⁷Arg^{26,34}Lys²³-(Glyc-ADod)-GLP-1(7-38); Val⁸Asp¹⁷Arg^{26,34}Lys²³-(Glyc-ADod)-GLP-1(7-38); Arg^{26,34}Lys²⁷-(Glyc-ADod)-GLP-1(7-36)amide; Arg^{26,34}Lys²⁷-(Glyc-ADod)-Arg^{26,34}Lys²⁷-(Glyc-ADod)-Arg²⁷-(Glyc-ADod)Arg²⁷-(Glyc-ADod)-Arg²⁷-(Glyc-ADod)-Arg²⁷-(Glyc-ADod)-A
- Val⁸Asp¹⁹Arg^{28,34}Lys¹⁸-(Glyc-ADod)-GLP-1(7-36); Val⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Glyc-ADod)-GLP-1(7-36); Val⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glyc-ADod)-GLP-1(7-36)amide; Val⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Glyc-ADod)-GLP-1(7-36)amide; Val⁸Asp¹⁹Arg^{28,34}Lys¹⁸-(Glyc-ADod)-GLP-1(7-37); Val⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glyc-ADod)-GLP-1(7-38); Val⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Glyc-ADod)-GLP-1(7-38); Arg^{28,34}Lys²³-(Glyc-ADod)-GLP-1(7-36); Arg^{26,34}Lys²³-(Glyc-ADod)-GLP-1(7-36)amide; Arg^{26,34}Lys²³-(Glyc-ADod)-GLP-1(7-37); Arg^{26,34}Lys²³-(Glyc-ADod)-GLP-1(7-38);
- GLP-1(7-36)amide; Gly⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glyc-ADod)-GLP-1(7-37); Gly⁸Asp¹⁹Arg^{28,34}Lys²⁷-(Glyc-ADod)-GLP-1(7-38);
 (Glyc-ADod)-GLP-1(7-38); Gly⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Glyc-ADod)-GLP-1(7-38);
 Arg^{26,34}Lys¹⁸-(Glyc-ADod)-GLP-1(7-36); Arg^{26,34}Lys¹⁸-(Glyc-ADod)-GLP-1(7-38);
 (Arg^{26,34}Lys¹⁸-(Glyc-ADod)-GLP-1(7-37); Arg^{26,34}Lys¹⁸-(Glyc-ADod)-GLP-1(7-38);
 (Arg^{26,34}Lys¹⁸-(Glyc-ADod)-GLP-1(7-37); Arg^{26,34}Lys¹⁸-(Glyc-ADod)-GLP-1(7-38);
 (Arg^{26,34}Lys¹⁸-(Glyc-ADod)-GLP-1(7-37); Arg^{26,34}Lys¹⁸-(Glyc-ADod)-GLP-1(7-38);
- (Glyc-ADod)-GLP-1(7-38); Gly⁸Asp¹⁷Arg^{26,34}Lys²²-(Glyc-ADod)-GLP-1(7-38); Arg^{26,34}Lys²⁷-(Glyc-ADod)-GLP-1(7-36); Arg^{26,34}Lys²⁷-(Glyc-ADod)-GLP-1(7-37); Gly⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glyc-ADod)-GLP-1(7-36); Gly⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Glyc-ADod)-GLP-1(7-36); Gly⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glyc-ADod)-GLP-1(7-36); Gly⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Glyc-ADod)-GLP-1(7-36); GLP-1(7-36)amide; Gly⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glyc-ADod)-GLP-1(7-37); Gly⁸Asp¹⁸Arg^{28,34}Lys²⁷-(Glyc-ADod)-GLP-1(7-36)amide; Gly⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glyc-ADod)-GLP-1(7-37); Gly⁸Asp¹⁸Arg^{28,34}Lys²⁷-
- (Glyc-ADod)-GLP-1(7-38); Gly⁸Asp¹⁷Arg^{28,34}Lys¹⁸-(Glyc-ADod)-GLP-1(7-38);
 Arg^{28,34}Lys²³-(Glyc-ADod)-GLP-1(7-36); Arg^{28,34}Lys²³-(Glyc-ADod)-GLP-1(7-36)amide;
 Arg^{28,34}Lys²³-(Glyc-ADod)-GLP-1(7-37); Arg^{28,34}Lys²³-(Glyc-ADod)-GLP-1(7-38);
 Gly⁸Asp¹⁹Arg^{28,34}Lys²³-(Glyc-ADod)-GLP-1(7-36); Gly⁸Asp¹⁷Arg^{28,34}Lys²³-(Glyc-ADod)-GLP-1(7-36);
 Gly⁸Asp¹⁹Arg^{28,34}Lys²³-(Glyc-ADod)-GLP-1(7-36); Gly⁸Asp¹⁷Arg^{28,34}Lys²³-(Glyc-ADod)-GLP-1(7-36);
 Gly⁸Asp¹⁹Arg^{28,34}Lys²³-(Glyc-ADod)-GLP-1(7-36)amide; Gly⁸Asp¹⁷Arg^{28,34}Lys²³-(Glyc-ADod)-GLP-1(7-36)amide; Gly⁸Asp¹⁹Arg^{28,34}Lys²³-(Glyc-ADod)-GLP-1(7-37); Gly⁸Asp¹⁹Arg^{28,34}Lys²³-
- Gly⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glyc-ADod)-GLP-1(7-36); Gly⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Glyc-ADod)-GLP-1(7-36); Gly⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glyc-ADod)-GLP-1(7-36)amide; Gly⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Glyc-ADod)-GLP-1(7-36)amide; Gly⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glyc-ADod)-GLP-1(7-37); Gly⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glyc-ADod)-GLP-1(7-38); Gly⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Glyc-ADod)-GLP-1(7-38);

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- Arg^{26,34}Lys²³-(Glyc-ADod)-GLP-1(7-36); Arg^{26,34}Lys²³-(Glyc-ADod)-GLP-1(7-38); Arg^{26,34}Lys²³-(Glyc-ADod)-GLP-1(7-37); Thr⁸Asp¹⁹Arg^{26,34}Lys²³-(Glyc-ADod)-GLP-1(7-36); Thr⁸Asp¹⁷Arg^{26,34}Lys²³-(Glyc-ADod)-GLP-1(7-30 36); Thr⁸Asp¹⁹Arg^{26,34}Lys²³-(Glyc-ADod)-GLP-1(7-36)amide; Thr⁸Asp¹⁷Arg^{26,34}Lys²³-(Glyc-ADod)-GLP-1(7-36)amide; Thr⁸Asp¹⁹Arg^{26,34}Lys²³-(Glyc-ADod)-GLP-1(7-37); Thr⁸Asp¹⁹Arg^{26,34}Lys²³-(Glyc-ADod)-GLP-1(7-38); Thr⁸Asp¹⁷Arg^{28,34}Lys²³-(Glyc-ADod)-GLP-1(7-38);
- Arg^{26,34}Lys¹⁸-(Glyc-ADod)-GLP-1(7-38); Arg^{26,34}Lys¹⁸-(Glyc-ADod)-GLP-1(7-37); Thr⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glyc-ADod)-GLP-1(7-36); Thr⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Glyc-ADod)-GLP-1(7-36); Thr⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glyc-ADod)-GLP-1(7-36)amide; Thr⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Glyc-ADod)-25 GLP-1(7-36)amide; Thr⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glyc-ADod)-GLP-1(7-37); Thr⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glyc-ADod)-GLP-1(7-38); Thr⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Glyc-ADod)-GLP-1(7-38); Arg^{26,34}Lys²³-(Glyc-ADod)-GLP-1(7-36)amide;
- 36): Ser⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glyc-ADod)-GLP-1(7-37); ADod)-GLP-1(7-36)amide; Ser⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glyc-ADod)-GLP-1(7-38); Ser⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Glyc-ADod)-GLP-1(7-20 38); Arg^{26,34}Lys¹⁸-(Glyc-ADod)-GLP-1(7-36)amide; Arg^{26,34}Lys¹⁸-(Glyc-ADod)-GLP-1(7-36);
- 38); Arg^{26,34}Lys²⁷-(Glyc-ADod)-GLP-1(7-36)amide; Arg^{26,34}Lys²⁷-(Glyc-ADod)-GLP-1(7-36); 15 Arg^{26,34}Lys²⁷-(Glyc-ADod)-GLP-1(7-38); Arg^{26,34}Lys²⁷-(Glyc-ADod)-GLP-1(7-37); Ser⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glyc-ADod)-GLP-1(7-36); Ser⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Glyc-ADod)-GLP-1(7-Ser⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glyc-ADod)-GLP-1(7-36)amide; Ser⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Glyc-
- Arg^{26,34}Lys²³-(Glyc-ADod)-GLP-1(7-38); Arg^{26,34}Lys²³-(Glyc-ADod)-GLP-1(7-37); Ser⁸Asp¹⁹Arg^{26,34}Lys²³-(Glyc-ADod)-GLP-1(7-36); Ser⁸Asp¹⁷Arg^{26,34}Lys²³-(Glyc-ADod)-GLP-1(7-10 Ser⁸Asp¹⁷Arg^{26,34}Lys²³-(Glyc-Ser⁸Asp¹⁹Arg^{26,34}Lys²³-(Glyc-ADod)-GLP-1(7-36)amide; 36); Ser⁸Asp¹⁹Arg^{26,34}Lys²³-(Glyc-ADod)-GLP-1(7-37); ADod)-GLP-1(7-36)amide; Ser⁸Asp¹⁹Arg^{26,34}Lys²³-(Glyc-ADod)-GLP-1(7-38); Ser⁸Asp¹⁷Arg^{26,34}Lys²³-(Glyc-ADod)-GLP-1(7-
- Arg^{26,34}Lys¹⁸-(Glyc-ADod)-GLP-1(7-38); Arg^{26,34}Lys¹⁸-(Glyc-ADod)-GLP-1(7-37); Ser⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glyc-ADod)-GLP-1(7-36); Ser⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Glyc-ADod)-GLP-1(7-Ser⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glyc-ADod)-GLP-1(7-36)amide; Ser⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Glyc-36): Ser⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glyc-ADod)-GLP-1(7-37); ADod)-GLP-1(7-36)amide; 5 Ser⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glyc-ADod)-GLP-1(7-38); Ser⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Glyc-ADod)-GLP-1(7-38);
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Arg^{28,34}Lys¹⁸-(Glyc-ADod)-GLP-1(7-36);

Arg^{26,34}Lys²³-(Glyc-ADod)-GLP-1(7-36);

Arg^{26,34}Lys¹⁸-(Glyc-ADod)-GLP-1(7-36)amide;

Arg^{26,34}Lys²³-(Glyc-ADod)-GLP-1(7-36)amide;

Vai⁸Arg²⁶Lys³⁴-(Glyc-ATet)-GLP-1(7-36); Val⁸Arg^{26,34}Lys³⁶-(Glyc-ATet)-GLP-1(7-36); Val⁸Arg³⁴Lys²⁶-(Glyc-ATet)-GLP-1(7-36)amide; 36)amide; Val[®]Arg^{2®}Lys³⁴-(Glyc-ATet)-GLP-1(7-37); Val[®]Arg³⁴Lys²⁶-(Glyc-ATet)-GLP-1(7-37); Val⁸Arg²⁶Lys³⁴-(Glyc-ATet)-GLP-1(7-38); Val⁸Arg^{26,34}Lys³⁶-(Glyc-ATet)-GLP-1(7-37); Val⁸Arg³⁴Lys²⁶-(Glyc-ATet)-GLP-1(7-38) Val⁸Arg^{26,34}Lys³⁸-(Glyc-ATet)-GLP-1(7-38); Val⁸Arg³⁴Lys²⁸-(Glyc-ATet)-GLP-1(7-39); Val⁸Arg²⁶Lys³⁴-(Glyc-ATet)-GLP-1(7-39); Val⁸Arg^{26,34}Lys³⁹-(Glyc-ATet)-GLP-1(7-39); Ser⁸Arg³⁴Lys²⁶-(Glyc-ATet)-GLP-1(7-36); Ser⁸Arg²⁶Lys³⁴-(Glyc-ATet)-GLP-1(7-36); Ser⁸Arg²⁶Lys³⁴-(Glyc-ATet)-GLP-1(7-36)amide; Ser⁸Arg^{26,34}Lys³⁶-(Glyc-ATet)-GLP-1(7-36); Ser^aArg^{26,34}Lys³⁶-(Glyc-ATet)-GLP-1(7-Ser⁸Arg³⁴Lys²⁶-(Glyc-ATet)-GLP-1(7-36)amide;

36)amide; Ser⁸Arg²⁶Lys³⁴-(Glyc-ATet)-GLP-1(7-37); Ser⁸Arg³⁴Lys²⁶-(Glyc-ATet)-GLP-1(7-37);

Gly⁸Arg³⁴Lys²⁶-(Glyc-ATet)-GLP-1(7-38) Gly⁸Arg³⁴Lys²⁶-(Glyc-ATet)-GLP-1(7-39); Gly⁸Arg²⁶Lys³⁴-(Glyc-ATet)-GLP-1(7-39); Gly⁸Arg^{26,34}Lys³⁹-(Glyc-ATet)-GLP-1(7-39); Val⁸Arg³⁴Lys²⁶-(Glyc-ATet)-GLP-1(7-36); Val⁸Arg²⁶Lys³⁴-(Glyc-ATet)-GLP-1(7-36)amide; Vai⁸Arg^{26,34}Lys³⁶-(Glyc-ATet)-GLP-1{7-

Gly⁸Arg²⁶Lys³⁴-(Glyc-ATet)-GLP-1(7-36); Gly⁸Arg^{26,34}Lys³⁶-(Glyc-ATet)-GLP-1(7-36); Gly⁸Arg³⁴Lys²⁶-(Glyc-ATet)-GLP-1(7-36)amide; 36)amide; Gly⁸Arg²⁶Lys³⁴-(Glyc-ATet)-GLP-1(7-37); Gly⁸Arg³⁴Lys²⁶-(Glyc-ATet)-GLP-1(7-37); Gly⁸Arg^{26,34}Lys³⁶-(Glyc-ATet)-GLP-1(7-37);

Ser⁸Arg^{26,34}Lys³⁶-(Glyc-ATet)-GLP-1(7-37);

(Glyc-ATet)-GLP-1(7-39);

Gly⁸Arg³⁴Lys²⁸-(Glyc-ATet)-GLP-1(7-36); Gly⁸Arg²⁶Lys³⁴-(Glyc-ATet)-GLP-1(7-36)amide; Gly⁸Arg^{26,34}Lys³⁶-(Glyc-ATet)-GLP-1(7-Gly8Arg26Lys34-(Glyc-ATet)-GLP-1(7-38); Gly⁸Arg^{26,34}Lys³⁸-(Glyc-ATet)-GLP-1(7-38);

Ser⁸Arg²⁶Lys³⁴-(Glyc-ATet)-GLP-1(7-38);

Arg²⁶Lys³⁴-(Glyc-ATet)-GLP-1(7-36); Arg³⁴Lys²⁶-(Glyc-ATet)-GLP-1(7-36); Arg^{26,34}Lys³⁸-(Glyc-ATet)-GLP-1(7-36); Arg²⁸Lys³⁴-(Glyc-ATet)-GLP-1(7-36)amide; Arg³⁴ Lys²⁸-(Glyc-ATet)-GLP-1(7-36)amide; Arg26,34Lys36-(Glyc-ATet)-GLP-1(7-36)amide; Arg26 Lys34-(Glyc-ATet)-GLP-1(7-37); Arg³⁴Lys²⁶-(Glyc-ATet)-GLP-1(7-37); Arg^{26,34}Lys³⁶-(Glyc-ATet)-GLP-1(7-37); Arg²⁶Lys³⁴-(Glyc-ATet)-GLP-1(7-38); Arg³⁴Lys²⁸-(Glyc-ATet)-GLP-1(7-38); Arg^{28,34}Lys³⁸-(Glyc-ATet)-GLP-1(7-38); Arg²⁶Lys³⁴-(Glyc-ATet)-GLP-1(7-39); Arg³⁴Lys²⁶-(Glyc-ATet)-GLP-1(7-39); Arg^{26,34}Lys³⁹-

Arg^{26,34}Lys²⁷-(Glyc-ADod)-GLP-1(7-36)amide; Arg^{28,34}Lys²⁷-(Glyc-ADod)-GLP-1(7-36); Arg26,34Lys27-(Glyc-ADod)-GLP-1(7-38); Arg^{26,34}Lys²⁷-(Glyc-ADod)-GLP-1(7-37); Thr^aAsp¹⁹Arg^{26,34}Lys²⁷-(Glyc-ADod)-GLP-1(7-36); Thr^aAsp¹⁷Arg^{28,34}Lys²⁷-(Glyc-ADod)-GLP-1(7-36); Thr^aAsp¹⁹Arg^{26,34}Lys²⁷-(Glyc-ADod)-GLP-1(7-36)amide; Thr^aAsp¹⁷Arg^{28,34}Lys²⁷-(Glyc-ADod)-GLP-1(7-36)amide; Thr^aAsp¹⁹Arg^{26,34}Lys²⁷-(Glyc-ADod)-GLP-1(7-37); Thr^aAsp¹⁹Arg^{26,34}Lys²⁷-

(Glvc-ADod)-GLP-1(7-38); Thr⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Glyc-ADod)-GLP-1(7-38);

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GLP-1(7-38);

ATet)-GLP-1(7-36);

ATet)-GLP-1(7-36);

GLP-1(7-38);

ATet)-GLP-1(7-36);

ATet)-GLP-1(7-36);

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Ser⁸Arg^{26,34}Lys³⁸-(Glyc-ATet)-GLP-1(7-38); Ser⁸Arg³⁴Lys²⁶-(Glyc-ATet)-GLP-1(7-39);

Gly8Glu35Arg26,34Lys36-(Glyc-ATet)-GLP-1(7-

Gly⁸Glu³⁵Arg^{26,34}Lys³⁶-(Glyc-ATet)-GLP-1(7-36)amide;

Glv⁸Asp³⁵Arg^{28,34}Lvs³⁸-(Glyc-ATet)-GLP-1(7-36)amide;

Val³Glu³⁵Arg^{26,34}Lys³⁶-(Glyc-ATet)-GLP-1(7-36)amide;

Val⁸Asp³⁵Arg^{26,34}Lys³⁶-(Glyc-ATet)-GLP-1(7-36)amide;

Gly8Asp37Arg26.34Lys38-(Glyc-ATet)-GLP-1(7-

Val[®]Glu³⁵Arg^{28,34}Lys³⁶-(Glyc-ATet)-GLP-1(7-

Thr⁸Arg³⁴Lys²⁸-(Glyc-ATet)-GLP-1(7-36); Thr⁸Arg²⁶Lys³⁴-(Glyc-ATet)-GLP-1(7-36)amide; Thr⁸Arg^{26,34}Lys³⁶-(Glyc-ATet)-GLP-1(7-Thr⁸Arg²⁸Lys³⁴-(Glyc-ATet)-GLP-1(7-38); Thr⁴Arg^{26,34}Lys³⁸-(Glyc-ATet)-GLP-1(7-38); : Thr⁸Arg³⁴Lys²⁶-(Glyc-ATet)-GLP-1(7-39); Thr^aArg²⁶Lys³⁴-(Glyc-ATet)-GLP-1(7-39);

36)amide; Gly⁸Glu³⁶Arg^{26,34}Lys³⁷-(Glyc-ATet)-GLP-1(7-37); Gly⁸Glu³⁷Arg^{26,34}Lys³⁸-(Glyc-ATet)-

Gly⁸Glu³⁶Arg^{26,34}Lys³⁷-(Glyc-ATet)-GLP-1(7-37); Gly⁸Glu³⁷Arg^{26,34}Lys³⁸-(Glyc-ATet)-GLP-1(7-38);

Gly⁸Asp³⁵Arg^{26,34}Lys³⁶-(Glyc-ATet)-GLP-1(7-36); Gly⁸Asp³⁵Arg^{26,34}Lys³⁶-(Glyc-ATet)-GLP-1(7-36)amide; Gly⁸Asp³⁶Arg^{26,34}Lys³⁷-(Glyc-ATet)-GLP-1(7-37); Gly⁸Asp³⁷Arg^{26,34}Lys³⁸-(Glyc-ATet)-GLP-1(7-38); Gly⁸Asp³⁸Arg^{26,34}Lys³⁹-(Glyc-ATet)-GLP-1(7-39); Gly⁸Asp³⁵Arg^{26,34}Lys³⁶-(Glyc-

36)amide; Val⁸Glu³⁶Arg^{26,34}Lys³⁷-(Glyc-ATet)-GLP-1(7-37); Val⁸Glu³⁷Arg^{26,34}Lys³⁸-(Glyc-ATet)-

Val⁸Glu³⁶Arg^{26,34}Lys³⁷-(Glyc-ATet)-GLP-1(7-37); Val⁸Glu³⁷Arg^{26,34}Lys³⁸-(Glyc-ATet)-GLP-1(7-38);

Val⁸Asp³⁵Arg^{26,34}Lys³⁶-(Glyc-ATet)-GLP-1(7-36); Val⁸Asp³⁵Arg^{26,34}Lys³⁶-(Glyc-ATet)-GLP-1(7-

36)amide; Val⁸Asp³⁶Arg^{26,34}Lys³⁷-(Glyc-ATet)-GLP-1(7-37); Val⁸Asp³⁷Arg^{26,34}Lys³⁸-(Glyc-ATet)-GLP-1(7-38); Val⁸Asp³⁸Arg^{26,34}Lys³⁹-(Glyc-ATet)-GLP-1(7-39); Val⁸Asp³⁵Arg^{26,34}Lys³⁶-(Glyc-

Val⁸Glu³⁸Arg^{26,34}Lys³⁹-(Glyc-ATet)-GLP-1(7-39); Val⁸Glu³⁵Arg^{26,34}Lys³⁶-(Glyc-

Gly⁸Glu³⁸Arg^{26,34}Lys³⁹-(Glyc-ATet)-GLP-1(7-39); Gly⁸Glu³⁵Arg^{26,34}Lys³⁶-(Glyc-

- Thr^aArg²⁶Lys³⁴-(Glyc-ATet)-GLP-1(7-36); Thr⁸Arg^{26,34}Lys³⁶-(Glyc-ATet)-GLP-1(7-36); 5 Thr⁸Arg³⁴Lys²⁶-(Glyc-ATet)-GLP-1(7-36)amide; 36)amide; Thr⁸Arg²⁶Lys³⁴-(Glyc-ATet)-GLP-1(7-37); Thr⁸Arg³⁴Lys²⁶-(Glyc-ATet)-GLP-1(7-37); Thr⁸Arg^{26,34}Lys³⁶-(Glyc-ATet)-GLP-1(7-37); Thr⁸Arg³⁴Lys²⁶-(Glyc-ATet)-GLP-1(7-38)
- Ser⁸Arg³⁴Lys²⁶-(Glyc-ATet)-GLP-1(7-38) Ser⁸Arg²⁶Lys³⁴-(Glyc-ATet)-GLP-1(7-39); Ser⁸Arg^{26,34}Lys³⁹-(Glyc-ATet)-GLP-1(7-39);

Thr⁸Arg^{26,34}Lys³⁹-(Glyc-ATet)-GLP-1(7-39);

Glv⁸Glu³⁵Arg^{26,34}Lys³⁶-(Glyc-ATet)-GLP-1(7-36);

Gly8Glu38Arg26,34Lys39-(Glyc-ATet)-GLP-1(7-39);

Gly⁸Asp³⁶Arg^{26,34}Lys³⁷-(Glyc-ATet)-GLP-1(7-37);

Val⁸Giu³⁵Arg^{26,34}Lys³⁶-(Glyc-ATet)-GLP-1(7-36);

Val⁸Glu³⁸Arg^{26,34}Lys³⁹-(Glyc-ATet)-GLP-1(7-39);

38); Gly⁸Asp³⁸Arg^{28,34}Lys³⁹-(Glyc-ATet)-GLP-1(7-39);

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Val[®]Asp^{3®}Arg^{2®,34}Lys³⁷-(Glyc-ATet)-GLP-1(7-37); Val[®]Asp³⁷Arg^{2®,34}Lys³⁸-(Glyc-ATet)-GLP-1(7-38); Val[®]Asp³⁸Arg^{2®,34}Lys³⁹-(Glyc-ATet)-GLP-1(7-39);

Ser⁸Glu³⁵Arg^{28,34}Lys³⁸-(Glyc-ATet)-GLP-1(7-36); Ser⁸Glu³⁵Arg^{28,34}Lys³⁸-(Glyc-ATet)-GLP-1(7-36)amide; Ser⁸Glu³⁶Arg^{28,34}Lys³⁷-(Glyc-ATet)-GLP-1(7-37); Ser⁸Glu³⁷Arg^{28,34}Lys³⁸-(Glyc-ATet)-GLP-1(7-38); Ser⁸Glu³⁸Arg^{28,34}Lys³⁹-(Glyc-ATet)-GLP-1(7-39); Ser⁸Glu³⁵Arg^{28,34}Lys³⁸-(Glyc-

 ATet)-GLP-1(7-36);
 Ser⁸Glu³⁵Arg^{26,34}Lys³⁸-(Glyc-ATet)-GLP-1(7-36)amide;

 Ser⁸Glu³⁶Arg^{26,34}Lys³⁷-(Glyc-ATet)-GLP-1(7-37);
 Ser⁸Glu³⁷Arg^{26,34}Lys³⁸-(Glyc-ATet)-GLP-1(7-38);

 Ser⁸Glu³⁸Arg^{26,34}Lys³⁹-(Glyc-ATet)-GLP-1(7-39);
 Ser⁸Glu³⁸Arg^{26,34}Lys³⁹-(Glyc-ATet)-GLP-1(7-39);

Ser⁸Asp³⁵Arg^{26,34}Lys³⁸-(Glyc-ATet)-GLP-1(7-36); Ser⁸Asp³⁵Arg^{26,34}Lys³⁶-(Glyc-ATet)-GLP-1(7-36)amide; Ser⁸Asp³⁶Arg^{26,34}Lys³⁷-(Glyc-ATet)-GLP-1(7-37); Ser⁸Asp³⁷Arg^{26,34}Lys³⁸-(Glyc-ATet)-GLP-1(7-38); Ser⁸Asp³⁸Arg^{26,34}Lys³⁹-(Glyc-ATet)-GLP-1(7-39); Ser⁸Asp³⁵Arg^{26,34}Lys³⁶-(Glyc-ATet)-GLP-1(7-36); Ser⁸Asp³⁵Arg^{26,34}Lys³⁵-(Glyc-ATet)-GLP-1(7-36)amide; Ser⁸Asp³⁶Arg^{26,34}Lys³⁷-(Glyc-ATet)-GLP-1(7-37); Ser⁸Asp³⁷Arg^{26,34}Lys³⁸-(Glyc-ATet)-GLP-1(7-38); Ser⁸Asp³⁸Arg^{26,34}Lys³⁹-(Glyc-ATet)-GLP-1(7-39);

Thr⁸Glu³⁵Arg^{26,34}Lys³⁶-(Glyc-ATet)-GLP-1(7-36); Thr⁸Glu³⁵Arg^{26,34}Lys³⁶-(Glyc-ATet)-GLP-1(7-36)amide; Thr⁸Glu³⁶Arg^{26,34}Lys³⁷-(Glyc-ATet)-GLP-1(7-37); Thr⁸Glu³⁵Arg^{26,34}Lys³⁸-(Glyc-ATet)-GLP-1(7-38); Thr⁸Glu³⁶Arg^{26,34}Lys³⁹-(Glyc-ATet)-GLP-1(7-39); Thr⁸Glu³⁵Arg^{26,34}Lys³⁶-(Glyc-ATet)-GLP-1(7-36); Thr⁸Glu³⁶Arg^{26,34}Lys³⁷-(Glyc-ATet)-GLP-1(7-37); Thr⁸Glu³⁶Arg^{26,34}Lys³⁷-(Glyc-ATet)-GLP-1(7-37); Thr⁸Glu³⁷Arg^{26,34}Lys³⁸-(Glyc-ATet)-GLP-1(7-38);
 Thr⁸Glu³⁶Arg^{26,34}Lys³⁷-(Glyc-ATet)-GLP-1(7-37); Thr⁸Glu³⁷Arg^{26,34}Lys³⁸-(Glyc-ATet)-GLP-1(7-38);
 Thr⁸Glu³⁸Arg^{26,34}Lys³⁹-(Glyc-ATet)-GLP-1(7-39);

 Thr⁸Asp³⁵Arg^{26,34}Lys³⁶-(Glyc-ATet)-GLP-1(7-36);
 Thr⁸Asp³⁵Arg^{26,34}Lys³⁸-(Glyc-ATet)-GLP-1(7-36);

 36)amide;
 Thr⁸Asp³⁶Arg^{26,34}Lys³⁷-(Glyc-ATet)-GLP-1(7-37);

 Thr⁸Asp³⁵Arg^{26,34}Lys³⁸-(Glyc-ATet)-GLP-1(7-37);
 Thr⁸Asp³⁵Arg^{26,34}Lys³⁸-(Glyc-ATet)-GLP-1(7-39);

 GLP-1(7-38);
 Thr⁸Asp³⁵Arg^{26,34}Lys³⁹-(Glyc-ATet)-GLP-1(7-39);

 Thr⁸Asp³⁵Arg^{26,34}Lys³⁷-(Glyc-ATet)-GLP-1(7-37);
 Thr⁸Asp³⁵Arg^{26,34}Lys³⁸-(Glyc-ATet)-GLP-1(7-36)amide;

 25
 Thr⁸Asp³⁶Arg^{26,34}Lys³⁷-(Glyc-ATet)-GLP-1(7-37);
 Thr⁸Asp³⁵Arg^{26,34}Lys³⁸-(Glyc-ATet)-GLP-1(7-37);

 (Glyc-ATet)-GLP-1(7-38); Gly⁸Asp¹⁷Arg^{28,34}Lys¹⁸-(Glyc-ATet)-GLP-1(7-38);

 Arg^{28,34}Lys²³-(Glyc-ATet)-GLP-1(7-36);

 Arg^{26,34}Lys²³-(Glyc-ATet)-GLP-1(7-37);

Arg^{26,34}Lys¹⁸-(Glyc-ATet)-GLP-1(7-36)amide; Arg^{26,34}Lys¹⁸-(Glyc-ATet)-GLP-1(7-36); Arg^{26,34}Lys¹⁸-(Glyc-ATet)-GLP-1(7-37); Arg^{26,34}Lys¹⁸-(Glyc-ATet)-GLP-1(7-38); 30 Ser⁸Asp¹⁸Arg^{26,34}Lys¹⁸-(Glyc-ATet)-GLP-1(7-36); Ser⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Glyc-ATet)-GLP-1(7-36); Ser⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glyc-ATet)-GLP-1(7-36)amide; Ser⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Glyc-ATet)-GLP-1(7-36)amide; Ser⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glyc-ATet)-GLP-1(7-37); Ser⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glyc-ATet)-GLP-1(7-38); Ser⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Glyc-ATet)-GLP-1(7-38);

- Arg^{26,34}Lys²⁷-(Glyc-ATet)-GLP-1(7-36)amide; Arg^{26,34}Lys²⁷-(Glyc-ATet)-GLP-1(7-36); Arg^{26,34}Lys²⁷-(Glyc-ATet)-GLP-1(7-38); Arg^{26,34}Lys²⁷-(Glyc-ATet)-GLP-1(7-37); Val⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glyc-ATet)-GLP-1(7-36); Val⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Glyc-ATet)-GLP-1(7-25 36); Val⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glyc-ATet)-GLP-1(7-36)amide; Val⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Glyc-ATet)-GLP-1(7-36)amide; Val⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glyc-ATet)-GLP-1(7-37); Val⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glvc-ATet)-GLP-1(7-38); Val⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Glvc-ATet)-GLP-1(7-38);
- (Glyc-ATet)-GLP-1(7-38); Val[®]Asp¹⁷Arg^{26,34}Lys¹⁸-(Glyc-ATet)-GLP-1(7-38); Arg^{26,34}Lys²³-(Glyc-ATet)-GLP-1(7-36)amide; Arg^{26,34}Lys²³-(Glyc-ATet)-GLP-1(7-36); Arg^{26,34}Lys²³-(Glyc-ATet)-GLP-1(7-37); Arg^{26,34}Lys²³-(Glyc-ATet)-GLP-1(7-38); Val⁸Asp¹⁹Arg^{26,34}Lys²³-(Glyc-ATet)-GLP-1(7-36); Val⁸Asp¹⁷Arg^{26,34}Lys²³-(Glyc-ATet)-GLP-1(7-36); Val⁸Asp¹⁹Arg^{26,34}Lys²³-(Glyc-ATet)-GLP-1(7-36)amide; Val⁸Asp¹⁷Arg^{26,34}Lys²³-(Glyc-ATet)-20 GLP-1(7-36)amide; Val⁸Asp¹⁹Arg^{26,34}Lys²³-(Glyc-ATet)-GLP-1(7-37); Val⁸Asp¹⁹Arg^{26,34}Lys²³-(Glyc-ATet)-GLP-1(7-38); Val⁸Asp¹⁷Arg^{28,34}Lys²³-(Glyc-ATet)-GLP-1(7-38);
- (Glyc-ATet)-GLP-1(7-38); Gly⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Glyc-ATet)-GLP-1(7-38); 10 Arg^{26,34}Lys¹⁸-(Glyc-ATet)-GLP-1(7-36); Arg^{26,34}Lys¹⁸-(Glyc-ATet)-GLP-1(7-36)amide; Arg^{26,34}Lys¹⁸-(Glyc-ATet)-GLP-1(7-38); Arg^{26,34}Lys¹⁸-(Glyc-ATet)-GLP-1(7-37); Val⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glyc-ATet)-GLP-1(7-36); Val⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Glyc-ATet)-GLP-1(7-36); Val⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glyc-ATet)-GLP-1(7-36)amide; Val⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Glyc-ATet)-GLP-1(7-36)amide; Val⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glyc-ATet)-GLP-1(7-37); Val⁸Asp¹⁹Arg^{26,34}Lys¹⁸-15
- (Glyc-ATet)-GLP-1(7-38); Gly8Asp17Arg28.34Lys23-(Glyc-ATet)-GLP-1(7-38); Arg^{26,34}Lys²⁷-(Glyc-ATet)-GLP-1(7-36)amide; Arg^{26,34}Lys²⁷-(Glyc-ATet)-GLP-1(7-36); 5 Arg^{26,34}Lys²⁷-(Glyc-ATet)-GLP-1(7-38); Arg^{26,34}Lys²⁷-(Glyc-ATet)-GLP-1(7-37); Gly⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glyc-ATet)-GLP-1(7-36); Gly⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Glyc-ATet)-GLP-1(7-36); Gly⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glyc-ATet)-GLP-1(7-36)amide; Gly⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Glyc-ATet)-GLP-1(7-36)amide; Gly⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glyc-ATet)-GLP-1(7-37); Gly⁸Asp¹⁹Arg^{26,34}Lys²⁷-
- Gly8Asp17Arg26,34Lys23-(Glyc-ATet)-GLP-1(7-Gly⁸Asp¹⁹Arg^{26,34}Lys²³-(Glyc-ATet)-GLP-1(7-36); 36); Gly⁸Asp¹⁹Arg^{28,34}Lys²³-(Glyc-ATet)-GLP-1(7-36)amide; Gly⁸Asp¹⁷Arg^{26,34}Lys²³-(Glyc-ATet)-GLP-1(7-36)amide; Gly⁸Asp¹⁹Arg^{26,34}Lys²³-(Glyc-ATet)-GLP-1(7-37); Gly⁸Asp¹⁹Arg^{26,34}Lys²³-

Arg^{26,34}Lys²³-(Glyc-ATet)-GLP-1(7-36); Arg26,34Lys23-(Glyc-ATet)-GLP-1(7-36)amide; Arg^{26,34}Lys²³-(Glyc-ATet)-GLP-1(7-37); Arg^{26,34}Lys²³-(Glyc-ATet)-GLP-1(7-38); Ser^aAsp¹⁹Arg^{28,34}Lys²³-(Glyc-ATet)-GLP-1(7-36); Ser⁸Asp¹⁷Arg^{26,34}Lys²³-(Glyc-ATet)-GLP-1(7-36); Ser⁸Asp¹⁹Arg^{26,34}Lys²³-(Glyc-ATet)-GLP-1(7-36)amide; Ser⁸Asp¹⁷Arg^{26,34}Lys²³-(Glyc-ATet)-GLP-1(7-36)amide; Ser⁸Asp¹⁹Arg^{26,34}Lys²³-(Glyc-ATet)-GLP-1(7-37); Ser⁸Asp¹⁹Arg^{26,34}Lys²³-(Glyc-ATet)-GLP-1(7-38); Ser⁸Asp¹⁷Arg^{28,34}Lys²³-(Glyc-ATet)-GLP-1(7-38);

Arg^{26,34}Lys²⁷-(Glyc-ATet)-GLP-1(7-36); Arg^{26,34}Lys²⁷-(Glyc-ATet)-GLP-1(7-36)amide; Arg^{26,34}Lys²⁷-(Glyc-ATet)-GLP-1(7-37); Arg^{26,34}Lys²⁷-(Glyc-ATet)-GLP-1(7-38); Ser^aAsp¹⁹Arg^{26,34}Lys²⁷-(Glyc-ATet)-GLP-1(7-36); Ser⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Glyc-ATet)-GLP-1(7-36); Ser⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glyc-ATet)-GLP-1(7-36)amide; Ser⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Glyc-ATet)-GLP-1(7-36)amide; Ser⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glyc-ATet)-GLP-1(7-37); Ser⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glyc-ATet)-GLP-1(7-38); Ser⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Glyc-ATet)-GLP-1(7-38);

Arg^{26,34}Lys¹⁸-(Glyc-ATet)-GLP-1(7-36); Arg^{26,34}Lys¹⁸-(Glyc-ATet)-GLP-1(7-36)amide; Arg26,34Lys18-(Glyc-ATet)-GLP-1(7-38); Arg^{26,34}Lys¹⁶-(Glyc-ATet)-GLP-1(7-37);

Thr⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glyc-ATet)-GLP-1(7-36); Thr⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Glyc-ATet)-GLP-1(7-36); Thr8Asp19Arg26.34Lys18-(Glyc-ATet)-GLP-1(7-36)amide; Thr8Asp17Arg26.34Lys18-(Glyc-ATet)-GLP-1(7-36)amide; Thr⁸Asp¹⁹Arg^{26,34}Lys¹⁶-(Glyc-ATet)-GLP-1(7-37); Thr⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glyc-ATet)-GLP-1(7-38); Thr⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Glyc-ATet)-GLP-1(7-38);

Arg^{26,34}Lys²³-(Glyc-ATet)-GLP-1(7-36); Arg^{26,34}Lys²³-(Glyc-ATet)-GLP-1(7-36)amide; Arg^{26,34}Lys²³-(Glyc-ATet)-GLP-1(7-37); Arg^{26,34}Lys²³-(Glyc-ATet)-GLP-1(7-38); 20 Thr⁸Asp¹⁹Arg^{26,34}Lys²³-(Glyc-ATet)-GLP-1(7-36); Thr⁸Asp¹⁷Arg^{26,34}Lys²³-(Glyc-ATet)-GLP-1(7-36); Thr⁸Asp¹⁹Arg^{26,34}Lys²³-(Glyc-ATet)-GLP-1(7-36)amide; Thr⁸Asp¹⁷Arg^{26,34}Lys²³-(Glyc-ATet)-Thr⁸Asp¹⁹Arg^{26,34}Lys²³-(Glyc-ATet)-GLP-1(7-37); Thr⁸Asp¹⁹Arg^{26,34}Lys²³-GLP-1(7-36)amide; (Giyc-ATet)-GLP-1(7-38); Thr⁸Asp¹⁷Arg^{26,34}Lys²³-(Giyc-ATet)-GLP-1(7-38);

Arg^{26,34}Lys²⁷-(Glyc-ATet)-GLP-1(7-36); Arg^{26,34}Lys²⁷-(Glyc-ATet)-GLP-1(7-36)amide; 25 Arg^{28,34}Lys²⁷-(Glyc-ATet)-GLP-1(7-37); Arg^{26,34}Lys²⁷-(Glyc-ATet)-GLP-1(7-38); Thr⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glyc-ATet)-GLP-1(7-36); Thr⁸Asp¹⁷Arg^{28,34}Lys²⁷-(Glyc-ATet)-GLP-1(7-36); Thr^aAsp¹⁹Arg^{26,34}Lys²⁷-(Glyc-ATet)-GLP-1(7-36)amide; Thr^aAsp¹⁷Arg^{26,34}Lys²⁷-(Glyc-ATet)-GLP-1(7-36)amide; Thr^aAsp¹⁹Arg^{26,34}Lys²⁷-(Glyc-ATet)-GLP-1(7-37); Thr^aAsp¹⁹Arg^{28,34}Lys²⁷-

(Glyc-ATet)-GLP-1(7-38); Thr⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Glyc-ATet)-GLP-1(7-38); 30 Arg²⁶Lys³⁴-(Glyc-AHex)-GLP-1(7-36); Arg³⁴Lys²⁶-(Glyc-AHex)-GLP-1(7-36); Arg^{26,34}Lys³⁶-(Glyc-AHex)-GLP-1(7-36); Arg²⁶Lys³⁴-(Glyc-AHex)-GLP-1(7-36)amide; Arg³⁴ Lys²⁶-(Glyc-AHex)-GLP-1(7-36)amide; Arg26.34Lys36-(Glyc-AHex)-GLP-1(7-36)amide; Arg26 Lys34-(Glyc-AHex)-GLP-1(7-37); Arg³⁴Lys²⁶-(Glyc-AHex)-GLP-1(7-37); Arg^{26,34}Lys³⁶-(Glyc-AHex)-GLP-1(7-37); Arg²⁶Lys³⁴-

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(Glyc-AHex)-GLP-1(7-38); Arg³⁴Lys²⁶-(Glyc-AHex)-GLP-1(7-38) ; Arg^{26,34}Lys³⁸-(Glyc-AHex)-GLP-1(7-38); Arg^{26,34}Lys²⁶-(Glyc-AHex)-GLP-1(7-39); Arg^{28,34}Lys³⁹-(Glyc-AHex)-GLP-1(7-39);

 Gly⁸Arg²⁸Lys³⁴-(Glyc-AHex)-GLP-1(7-36);
 Gly⁸Arg²⁴Lys²⁸-(Glyc-AHex)-GLP-1(7-36);

 5
 Gly⁸Arg^{28,34}Lys³⁶-(Glyc-AHex)-GLP-1(7-36);
 Gly⁸Arg²⁶Lys³⁴-(Glyc-AHex)-GLP-1(7-36)amide;

 6
 Gly⁸Arg³⁴Lys²⁶-(Glyc-AHex)-GLP-1(7-36);
 Gly⁸Arg^{26,34}Lys³⁶-(Glyc-AHex)-GLP-1(7-36)amide;

 6
 Gly⁸Arg³⁴Lys²⁶-(Glyc-AHex)-GLP-1(7-36)amide;
 Gly⁸Arg^{26,34}Lys³⁶-(Glyc-AHex)-GLP-1(7-37);

 6
 Gly⁸Arg^{26,34}Lys³⁶-(Glyc-AHex)-GLP-1(7-37);
 Gly⁸Arg^{26,34}Lys²⁶-(Glyc-AHex)-GLP-1(7-38);

 6
 Gly⁸Arg²⁶Lys³⁴-(Glyc-AHex)-GLP-1(7-38);
 Gly⁸Arg^{26,34}Lys³⁸-(Glyc-AHex)-GLP-1(7-38);

 7
 Gly⁸Arg²⁶Lys³⁴-(Glyc-AHex)-GLP-1(7-38);
 Gly⁸Arg^{26,34}Lys³⁸-(Glyc-AHex)-GLP-1(7-38);

 7
 Gly⁸Arg²⁶Lys³⁴-(Glyc-AHex)-GLP-1(7-38);
 Gly⁸Arg^{26,34}Lys³⁸-(Glyc-AHex)-GLP-1(7-38);

 7
 Gly⁸Arg²⁶Lys³⁴-(Glyc-AHex)-GLP-1(7-39);
 Gly⁸Arg³⁴Lys²⁶-(Glyc-AHex)-GLP-1(7-39);

- Gly⁸Arg^{26,34}Lys³⁹-(Glyc-AHex)-GLP-1(7-39); Val⁸Arg^{26,34}Lys³⁶-(Glyc-AHex)-GLP-1(7-36); Val⁹Arg^{26,34}Lys³⁶-(Glyc-AHex)-GLP-1(7-36); Val⁹Arg³⁴Lys²⁶-(Glyc-AHex)-GLP-1(7-36); is 36)amide; Val⁹Arg²⁶Lys³⁴-(Glyc-AHex)-GLP-1(7-37); Val⁹Arg^{28,34}Lys³⁶-(Glyc-AHex)-GLP-1(7-37); Val⁹Arg^{28,34}Lys³⁶-(Glyc-AHex)-GLP-1(7-37); Val⁹Arg^{28,34}Lys³⁶-(Glyc-AHex)-GLP-1(7-37); Val⁹Arg^{28,34}Lys³⁶-(Glyc-AHex)-GLP-1(7-37); Val⁹Arg^{26,34}Lys³⁶-(Glyc-AHex)-GLP-1(7-38); Val⁹Arg³⁴Lys²⁶-(Glyc-AHex)-GLP-1(7-38); Val⁹Arg²⁶Lys³⁴-(Glyc-AHex)-GLP-1(7-39); Val⁹Arg²⁶Lys³⁴-(Glyc-AHex)-GLP-1(7-39);
- Val⁸Arg^{26,34}Lys³⁹-(Glyc-AHex)-GLP-1(7-39); Ser⁸Arg³⁴Lys²⁶-(Glyc-AHex)-GLP-1(7-36); Ser⁸Arg²⁶Lys³⁴-(Glyc-AHex)-GLP-1(7-36); 20 Ser⁸Arg²⁶Lys³⁴-(Glyc-AHex)-GLP-1(7-36)amide; Ser⁸Arg^{26,34}Lys³⁶-(Glyc-AHex)-GLP-1(7-36); Ser⁸Arg^{26,34}Lys³⁶-(Glyc-AHex)-GLP-1(7-Ser⁸Arg³⁴Lys²⁶-(Glyc-AHex)-GLP-1(7-36)amide; 36)amide; Ser⁸Arg²⁶Lys³⁴-(Glyc-AHex)-GLP-1(7-37); Ser⁸Arg³⁴Lys²⁶-(Glyc-AHex)-GLP-1(7-37); Ser⁸Arg²⁶Lys³⁴-(Glyc-AHex)-GLP-1(7-38); Ser⁸Arg^{26,34}Lys³⁶-(Glyc-AHex)-GLP-1(7-37); Ser⁸Arg^{26,34}Lys³⁸-(Glyc-AHex)-GLP-1(7-38); Ser⁸Arg³⁴Lys²⁶-(Glyc-AHex)-GLP-1(7-38) 25 Ser⁴Arg³⁴Lys²⁶-(Glyc-AHex)-GLP-1(7-39); Ser^aArg²⁶Lys³⁴-(Glyc-AHex)-GLP-1(7-39);
- Ser⁸Arg^{26,34}Lys³⁹-(Glyc-AHex)-GLP-1(7-39);

 Thr⁸Arg²⁶Lys³⁴-(Glyc-AHex)-GLP-1(7-36);

 Thr⁸Arg^{26,34}Lys³⁶-(Glyc-AHex)-GLP-1(7-36);

 Thr⁸Arg³⁴Lys²⁶-(Glyc-AHex)-GLP-1(7-36);

 Thr⁸Arg³⁴Lys²⁶-(Glyc-AHex)-GLP-1(7-36);

 Thr⁸Arg³⁴Lys²⁶-(Glyc-AHex)-GLP-1(7-36);

 Thr⁸Arg³⁴Lys²⁶-(Glyc-AHex)-GLP-1(7-36);

 Thr⁸Arg³⁴Lys²⁶-(Glyc-AHex)-GLP-1(7-36);

 Thr⁸Arg^{26,34}Lys³⁶-(Glyc-AHex)-GLP-1(7-37);

 Thr⁸Arg^{26,34}Lys³⁶-(Glyc-AHex)-GLP-1(7-37);

 Thr⁸Arg^{26,34}Lys³⁶-(Glyc-AHex)-GLP-1(7-37);

 Thr⁸Arg^{26,34}Lys³⁶-(Glyc-AHex)-GLP-1(7-37);

 Thr⁸Arg^{26,34}Lys³⁶-(Glyc-AHex)-GLP-1(7-37);

 Thr⁸Arg^{26,34}Lys³⁶-(Glyc-AHex)-GLP-1(7-38);

Ser⁸Glu³⁵Arg^{26,34}Lys³⁶-(Glyc-AHex)-GLP-1(7-36)amide; AHex)-GLP-1(7-36); 30 Ser^aGlu³⁶Arg^{26,34}Lys³⁷-(Glyc-AHex)-GLP-1(7-37); Ser^aGlu³⁷Arg^{26,34}Lys³⁸-(Glyc-AHex)-GLP-1(7-38); Ser⁸Glu³⁸Arg^{25,34}Lys³⁹-(Glyc-AHex)-GLP-1(7-39); Ser⁸Asp³⁵Arg^{26,34}Lys³⁶-(Glyc-AHex)-GLP-1(7-36); Ser⁸Asp³⁵Arg^{26,34}Lys³⁶-(Glyc-AHex)-GLP-1(7-36)amide: Ser⁸Asp³⁶Arg^{26,34}Lys³⁷-(Glyc-AHex)-GLP-1(7-37); Ser⁸Asp³⁷Arg^{28,34}Lys³⁸-(Glyc-AHex)-

- Val⁸Asp³⁵Arg^{26,34}Lys³⁶-(Glyc-AHex)-GLP-1(7-36)amide; AHex)-GLP-1(7-36); Val⁸Asp³⁶Arg^{26,34}Lys³⁷-(Glyc-AHex)-GLP-1(7-37); Val⁸Asp³⁷Arg^{26,34}Lys³⁸-(Glyc-AHex)-GLP-1(7-25 38); Val⁸Asp³⁸Arg^{26,34}Lys³⁹-(Glyc-AHex)-GLP-1(7-39); Ser⁸Glu³⁵Arg^{26,34}Lys³⁶-(Glyc-AHex)-GLP-1(7-36); Ser⁸Glu³⁵Arg^{26,34}Lys³⁶-(Glyc-AHex)-GLP-1(7-36)amide; Ser⁸Glu³⁶Arg^{26,34}Lys³⁷-(Glyc-AHex)-GLP-1(7-37); Ser⁸Glu³⁷Arg^{26,34}Lys³⁸-(Glyc-AHex)-GLP-1(7-38); Ser⁸Glu³⁸Arg^{26,34}Lys³⁹-(Glyc-AHex)-GLP-1(7-39); Ser⁸Glu³⁵Arg^{26,34}Lys³⁶-(Glyc-
- Val⁸Glu³⁵Arg^{26,34}Lys³⁷-(Glyc-AHex)-GLP-1(7-37); Val⁸Glu³⁷Arg^{26,34}Lys³⁸-(Glyc-AHex)-GLP-1(7-38); Val⁸Glu³⁸Arg^{26,34}Lys³⁹-(Glyc-AHex)-GLP-1(7-39); 20 Val⁸Asp³⁵Arg^{26,34}Lys³⁶-(Glyc-AHex)-GLP-1(7-36); Val⁸Asp³⁵Arg^{28,34}Lys³⁶-(Glyc-AHex)-GLP-1(7-36)amide; Val⁸Asp³⁶Arg^{26,34}Lys³⁷-(Glyc-AHex)-GLP-1(7-37); Val⁸Asp³⁷Arg^{26,34}Lys³⁸-(Glyc-AHex)-GLP-1(7-38); Val⁸Asp³⁸Arg^{26,34}Lys³⁹-(Glyc-AHex)-GLP-1(7-39); Val⁸Asp³⁵Arg^{26,34}Lys³⁸-(Glyc-
- Val⁸Glu³⁵Arg^{26,34}Lys³⁶-(Glyc-AHex)-GLP-1(7-36); Val⁸Glu³⁵Arg^{26,34}Lys³⁶-(Glyc-AHex)-GLP-1(7-15 36)amide; Val⁸Glu³⁶Arg^{26,34}Lys³⁷-(Glyc-AHex)-GLP-1(7-37); Val⁸Glu³⁷Arg^{26,34}Lys³⁸-(Glyc-AHex)-GLP-1(7-38); Val⁸Glu³⁸Arg^{26,34}Lys³⁹-(Glyc-AHex)-GLP-1(7-39); Val⁸Glu³⁵Arg^{26,34}Lys³⁶-(Glyc-Val⁸Glu³⁵Arg^{26,34}Lys³⁶-(Glyc-AHex)-GLP-1(7-36)amide; AHex)-GLP-1(7-36);
- 36)amide: Gly⁸Asp³⁶Arg^{28,34}Lys³⁷-(Glyc-AHex)-GLP-1(7-37); Gly⁸Asp³⁷Arg^{26,34}Lys³⁸-(Glyc-AHex)-10 GLP-1(7-38); Gly⁸Asp³⁸Arg^{26,34}Lys³⁹-(Glyc-AHex)-GLP-1(7-39); Gly⁸Asp³⁵Arg^{26,34}Lys³⁸-(Glyc-Gly⁸Asp³⁵Arg^{26,34}Lys³⁶-(Glyc-AHex)-GLP-1(7-36)amide; AHex)-GLP-1(7-36); Gly⁸Asp³⁶Arg^{26,34}Lys³⁷-(Glyc-AHex)-GLP-1(7-37); Gly⁸Asp³⁷Arg^{26,34}Lys³⁸-(Glyc-AHex)-GLP-1(7-38); Gly⁸Asp³⁸Arg^{26,34}Lys³⁹-(Glyc-AHex)-GLP-1(7-39);
- Gly⁸Glu³⁵Arg^{26,34}Lys³⁶-(Glyc-AHex)-GLP-1(7-36); Gly⁸Glu³⁵Arg^{26,34}Lys³⁶-(Glyc-AHex)-GLP-1(7-36)amide; Gly⁸Glu³⁶Arg^{26,34}Lys³⁷-(Glyc-AHex)-GLP-1(7-37); Gly⁸Glu³⁷Arg^{26,34}Lys³⁸-(Glyc-AHex)-GLP-1(7-38); Gly⁸Glu³⁸Arg^{26,34}Lys³⁹-(Glyc-AHex)-GLP-1(7-39); Gly⁸Glu³⁵Arg^{26,34}Lys³⁶-(Glyc-5 Gly⁸Glu³⁵Arg^{26,34}Lys³⁶-(Glyc-AHex)-GLP-1(7-36)amide; AHex)-GLP-1(7-36); Gly⁸Glu³⁶Arg^{28,34}Lys³⁷-(Glyc-AHex)-GLP-1(7-37); Gly⁸Glu³⁷Arg^{28,34}Lys³⁸-(Glyc-AHex)-GLP-1(7-38); Gly⁸Glu³⁸Arg^{26,34}Lys³⁹-(Glyc-AHex)-GLP-1(7-39);

Gly⁸Asp³⁵Arg^{26,34}Lys³⁶-(Glyc-AHex)-GLP-1(7-36); Gly⁸Asp³⁵Arg^{26,34}Lys³⁶-(Glyc-AHex)-GLP-1(7-

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Thr^aArg²⁶Lys³⁴-(Glyc-AHex)-GLP-1(7-39); Thr8Arg26,34Lys39-(Glyc-AHex)-GLP-1(7-39);

Thr^aArg³⁴Lys²⁸-(Glyc-AHex)-GLP-1(7-39);

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- Arg^{26,34}Lys²⁷-(Glyc-AHex)-GLP-1(7-36);
 Arg^{26,34}Lys²⁷-(Glyc-AHex)-GLP-1(7-36)amide;

 30
 Arg^{26,34}Lys²⁷-(Glyc-AHex)-GLP-1(7-37);
 Arg^{26,34}Lys²⁷-(Glyc-AHex)-GLP-1(7-38);

 Gly⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glyc-AHex)-GLP-1(7-36);
 Gly⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Glyc-AHex)-GLP-1(7-38);

 Gly⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glyc-AHex)-GLP-1(7-36);
 Gly⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Glyc-AHex)-GLP-1(7-36)amide;

 Gly-1(7-36)amide;
 Gly⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glyc-AHex)-GLP-1(7-36)amide;

 Glyc-AHex)-GLP-1(7-38);
 Gly⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glyc-AHex)-GLP-1(7-37);

 Glyc-AHex)-GLP-1(7-38);
 Gly⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Glyc-AHex)-GLP-1(7-38);
- Arg^{28,34}Lys²³-(Glyc-AHex)-GLP-1(7-37);
 Arg^{28,34}Lys²³-(Glyc-AHex)-GLP-1(7-38);

 25
 Gly⁸Asp¹⁹Arg^{26,34}Lys²³-(Glyc-AHex)-GLP-1(7-36);
 Gly⁸Asp¹⁷Arg^{26,34}Lys²³-(Glyc-AHex)-GLP-1(7-36);

 26
 Gly⁸Asp¹⁹Arg^{26,34}Lys²³-(Glyc-AHex)-GLP-1(7-36);
 Gly⁸Asp¹⁷Arg^{26,34}Lys²³-(Glyc-AHex)-GLP-1(7-36);

 26
 Gly⁸Asp¹⁹Arg^{26,34}Lys²³-(Glyc-AHex)-GLP-1(7-36);
 Gly⁸Asp¹⁷Arg^{26,34}Lys²³-(Glyc-AHex)-GLP-1(7-36);

 27
 Gly⁸Asp¹⁹Arg^{26,34}Lys²³-(Glyc-AHex)-GLP-1(7-36);
 Glyc-AHex)-GLP-1(7-37);
 Gly⁸Asp¹⁹Arg^{26,34}Lys²³-(Glyc-AHex)-GLP-1(7-37);

 28
 Glyc-AHex)-GLP-1(7-38);
 Gly⁸Asp¹⁷Arg^{26,34}Lys²³-(Glyc-AHex)-GLP-1(7-38);
- Arg^{26,34}Lys¹⁸-(Giyc-AHex)-GLP-1(7-36);
 Arg^{26,34}Lys¹⁸-(Giyc-AHex)-GLP-1(7-36)amide;

 Arg^{28,34}Lys¹⁸-(Giyc-AHex)-GLP-1(7-37);
 Arg^{26,34}Lys¹⁸-(Giyc-AHex)-GLP-1(7-38);

 Gly⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Giyc-AHex)-GLP-1(7-36);
 Gly⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Giyc-AHex)-GLP-1(7-38);

 20
 36); Gly⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glyc-AHex)-GLP-1(7-36)amide;
 Gly⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Glyc-AHex)-GLP-1(7-36)amide;

 20
 36); Gly⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glyc-AHex)-GLP-1(7-36)amide;
 Gly⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Glyc-AHex)-GLP-1(7-37);

 20
 36); Gly⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glyc-AHex)-GLP-1(7-38);
 Gly⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glyc-AHex)-GLP-1(7-37);

 20
 Gly⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glyc-AHex)-GLP-1(7-38);
 Gly⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glyc-AHex)-GLP-1(7-38);
- 38); Thr⁸Glu³⁸Arg^{26,34}Lys³⁹-(Glyc-AHex)-GLP-1(7-39); Thr⁸Asp³⁵Arg^{26,34}Lys³⁶-(Glyc-AHex)-GLP-1(7-36); Thr⁸Asp³⁵Arg^{26,34}Lys³⁶-(Glyc-AHex)-GLP-1(7-36); Thr⁸Asp³⁵Arg^{26,34}Lys³⁹-(Glyc-AHex)-GLP-1(7-37); Thr⁸Asp³⁵Arg^{26,34}Lys³⁹-(Glyc-AHex)-GLP-1(7-38); Thr⁸Asp³⁶Arg^{26,34}Lys³⁹-(Glyc-AHex)-GLP-1(7-39); Thr⁸Asp³⁵Arg^{26,34}Lys³⁶-(Glyc-AHex)-GLP-1(7-36); Thr⁸Asp³⁵Arg^{26,34}Lys³⁶-(Glyc-AHex)-GLP-1(7-36); Thr⁸Asp³⁵Arg^{26,34}Lys³⁶-(Glyc-AHex)-GLP-1(7-36); Thr⁸Asp³⁵Arg^{26,34}Lys³⁸-(Glyc-AHex)-GLP-1(7-36); Thr⁸Asp³⁵Arg^{26,34}Lys³⁸-(Glyc-AHex)-GLP-1(7-37); Thr⁸Asp³⁵

38); Thr³Asp³⁸Arg^{26,34}Lys³⁹-(Glyc-AHex)-GLP-1(7-39);

- 38); Ser⁸Asp³⁸Arg^{26,34}Lys³⁹-(Glyc-AHex)-GLP-1(7-39);
 Thr⁸Glu³⁵Arg^{26,34}Lys³⁶-(Glyc-AHex)-GLP-1(7-36); Thr⁸Glu³⁵Arg^{26,34}Lys³⁶-(Glyc-AHex)-GLP-1(7-36)amide; Thr⁸Glu³⁸Arg^{26,34}Lys³⁷-(Glyc-AHex)-GLP-1(7-37); Thr⁸Glu³⁷Arg^{26,34}Lys³⁸-(Glyc-AHex)-GLP-1(7-38); Thr⁸Glu³⁸Arg^{26,34}Lys³⁹-(Glyc-AHex)-GLP-1(7-39); Thr⁸Glu³⁵Arg^{26,34}Lys³⁸-(Glyc-AHex)-GLP-1(7-36); Thr⁸Glu³⁵Arg^{26,34}Lys³⁸-(Glyc-AHex)-GLP-1(7-36)amide; Thr⁸Glu³⁸Arg^{26,34}Lys³⁷-(Glyc-AHex)-GLP-1(7-37); Thr⁸Glu³⁷Arg^{26,34}Lys³⁸-(Glyc-AHex)-GLP-1(7-36)amide;
- GLP-1(7-38);
 Ser⁸Asp³⁸Arg^{28,34}Lys³⁹-(Glyc-AHex)-GLP-1(7-39);
 Ser⁸Asp³⁵Arg^{28,34}Lys³⁸-(Glyc-AHex)-GLP-1(7-36);

 AHex)-GLP-1(7-36);
 Ser⁸Asp³⁵Arg^{26,34}Lys³⁶-(Glyc-AHex)-GLP-1(7-36)amide;

 Ser⁸Asp³⁶Arg^{26,34}Lys³⁷-(Glyc-AHex)-GLP-1(7-37);
 Ser⁸Asp³⁷Arg^{26,34}Lys³⁸-(Glyc-AHex)-GLP-1(7-37);

36); Ser⁸Asp¹⁹Arg^{26,34}Lys²³-(Glyc-AHex)-GLP-1(7-36)amide; Ser⁸Asp¹⁷Arg^{26,34}Lys²³-(Glyc-AHex)-GLP-1(7-37); Ser⁸Asp¹⁹Arg^{26,34}Lys²³-(Glyc-AHex)-GLP-1(7-37); Ser⁸Asp¹⁹Arg^{26,34}Lys²³-(Glyc-AHex)-GLP-1(7-38); Arg^{28,34}Lys²⁷-(Glyc-AHex)-GLP-1(7-36); Arg^{28,34}Lys²⁷-(Glyc-AHex)-GLP-1(7-36); Arg^{28,34}Lys²⁷-(Glyc-AHex)-GLP-1(7-38); Ser⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glyc-AHex)-GLP-1(7-37); Arg^{26,34}Lys²⁷-(Glyc-AHex)-GLP-1(7-38); Ser⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glyc-AHex)-GLP-1(7-37); Ser⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glyc-AHex)-GLP-1(7-38); Ser⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glyc-AHex)-GLP-1(7-38); Ser⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glyc-AHex)-GLP-1(7-38); Ser⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glyc-AHex)-GLP-1(7-38); Ser⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glyc-AHex)-GLP-1(7-38); Ser⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glyc-AHex)-GLP-1(7-38); Ser⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glyc-AHex)-GLP-1(7-38); Ser⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glyc-AHex)-GLP-1(7-38); Ser⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Slyc-AHex)-GLP-1(7-38); Ser⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Slyc-AHex)-GLP-1(7-38); Ser⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Slyc-AHex)-GLP-1(7-36); Ser⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Slyc-AHex)-GLP-1(7-38); Ser⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Slyc-AHex)-GLP-1(7-36); Ser⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Slyc-AHex)-GLP-1(7-36); Ser⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Slyc-AHex)-GLP-1(7-36); Ser⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Slyc-AHex)-GLP-1(7-36); Ser⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Slyc-AHex)-GLP-1(7-36); Ser⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Slyc-AHex)-SLP-1(7-36)

36); Ser⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glyc-AHex)-GLP-1(7-36)amide; Ser⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Glyc-AHex)-

36); Ser⁸Asp¹⁹Arg^{28,34}Lys¹⁸-(Glyc-AHex)-GLP-1(7-36)amide; Ser⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Glyc-AHex)-GLP-1(7-37); Ser⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glyc-AHex)-GLP-1(7-37); Ser⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glyc-AHex)-GLP-1(7-38);
25 Arg^{28,34}Lys²³-(Glyc-AHex)-GLP-1(7-36); Arg^{26,34}Lys²³-(Glyc-AHex)-GLP-1(7-36)amide; Arg^{28,34}Lys²³-(Glyc-AHex)-GLP-1(7-37); Arg^{28,34}Lys²³-(Glyc-AHex)-GLP-1(7-38); Ser⁸Asp¹⁹Arg^{26,34}Lys²³-(Glyc-AHex)-GLP-1(7-38); Ser⁸Asp¹⁹Arg^{26,34}Lys²³-(Glyc-AHex)-GLP-1(7-37); Ser⁸Asp¹⁹Arg^{26,34}Lys²³-(Glyc-AHex)-GLP-1(7-37); Arg^{26,34}Lys²³-(Glyc-AHex)-GLP-1(7-38); Ser⁸Asp¹⁹Arg^{26,34}Lys²³-(Glyc-AHex)-GLP-1(7-37); Arg^{26,34}Lys²³-(Glyc-AHex)-GLP-1(7-38); Ser⁸Asp¹⁹Arg^{26,34}Lys²³-(Glyc-AHex)-GLP-1(7-36); Ser⁸Asp¹⁷Arg^{26,34}Lys²³-(Glyc-AHex)-GLP-1(7-38); Ser⁸Asp¹⁹Arg^{26,34}Lys²³-(Glyc-AHex)-GLP-1(7-36); Ser⁸Asp¹⁷Arg^{26,34}Lys²³-(Glyc-AHex)-GLP-1(7-36); Ser⁸Asp¹⁷Arg^{26,34}Lys²³-(Glyc-AHex)-GLP-1(7-36); Ser⁸Asp¹⁷Arg^{26,34}Lys²³-(Glyc-AHex)-GLP-1(7-38); Ser⁸Asp¹⁹Arg^{26,34}Lys²³-(Glyc-AHex)-GLP-1(7-36); Ser⁸Asp¹⁷Arg^{26,34}Lys²³-(Glyc-AHex)-GLP-1(7-36); Ser⁸Asp¹⁷Arg^{26,34}Lys²³-(Glyc-AHex)-GLP-1(7-36); Ser⁸Asp¹⁷Arg^{26,34}Lys²³-(Slyc-AHex)-GLP-1(7-36); Ser⁸Asp¹⁷Arg^{26,34}Lys²³-(Slyc-AHex)-GLP-1(7-36); Ser⁸Asp¹⁷Arg^{26,34}Lys²³-(Slyc-AHex)-GLP-1(7-36); Ser⁸Asp¹⁷Arg^{26,34}Lys²³-(Slyc-AHex)-GLP-1(7-36); Ser⁸Asp¹⁷Arg^{26,34}Lys²³-(Slyc-AHex)-GLP-1(7-36); Ser⁸Asp¹⁷Arg^{26,34}Lys²³-(Slyc-AHex)-SlP-1(7-36); Ser⁸Asp¹⁷Arg^{26,34}Lys²³-(Slyc-AHex)-SlP-1(7-36); Ser⁸Asp¹⁷Arg^{26,34}Lys²³-(Slyc-AHex)-SlP-1(7-36); Ser⁸Asp¹⁷Arg^{26,34}Lys²³-(Slyc-AHex)-SlP-1(7-36); Ser⁸Asp¹⁷Arg^{26,34}Lys²³-(Slyc-AHex)-SlP-1(7-36); Ser⁸Asp¹⁷Arg^{26,34}Lys²³-(Slyc-AHex)-SlP-1(7-36); Ser⁸Asp¹⁷Arg^{26,34}Lys²³-(Slyc-AHex)-SlP-1(7-36); Ser⁸Asp¹⁷Arg^{26,34}Lys²³-(Slyc-AHex)-SlP-1(7-36); Ser⁸Asp¹⁷Arg^{26,34}Lys²³-(Slyc-AHex)-SlP-1(7-36); Ser⁸Asp¹⁷Arg

GLP-1(7-36)amide, Val Asp Alg Lys -(Glyc-Arlex)-GLP-1(7-37), Val Asp Alg Lys - (Glyc-Arlex)-GLP-1(7-38); Val⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Glyc-Arlex)-GLP-1(7-38); Arg^{26,34}Lys¹⁸-(Glyc-Arlex)-GLP-1(7-36); Arg^{26,34}Lys¹⁸-(Glyc-Arlex)-GLP-1(7-36); Arg^{26,34}Lys¹⁸-(Glyc-Arlex)-GLP-1(7-38); Ser⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glyc-Arlex)-GLP-1(7-36); Ser⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glyc-Arlex)-GLP-1(7-36); Ser⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glyc-Arlex)-GLP-1(7-36); Ser⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glyc-Arlex)-GLP-1(7-36); Ser⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glyc-Arlex)-GLP-1(7-36); Ser⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glyc-Arlex)-GLP-1(7-36); Ser⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Glyc-Arlex)-GLP-1(7-36); Ser⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Slyc-Arlex)-GLP-1(7-36); Ser⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Slyc-Arlex)-GLP-1(7-36); Ser⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Slyc-Arlex)-Ser⁸-Ser⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Slyc-Arlex)-Ser⁸-S

 Arg^{26,34}Lys²⁷-(Glyc-AHex)-GLP-1(7-37);
 Arg^{26,34}Lys²⁷-(Glyc-AHex)-GLP-1(7-38);

 15
 Val⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glyc-AHex)-GLP-1(7-36);
 Val⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Glyc-AHex)-GLP-1(7-36);

 15
 Val⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glyc-AHex)-GLP-1(7-36);
 Val⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Glyc-AHex)-GLP-1(7-36);

 15
 Val⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glyc-AHex)-GLP-1(7-36);
 Val⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Glyc-AHex)-GLP-1(7-36);

 16
 Val⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glyc-AHex)-GLP-1(7-36);
 Val⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glyc-AHex)-GLP-1(7-37);

 17
 GLP-1(7-36);
 Val⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glyc-AHex)-GLP-1(7-37);

 18
 Val⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glyc-AHex)-GLP-1(7-37);
 Val⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glyc-AHex)-GLP-1(7-38);

 Arg^{26,34}Lys²³-(Glyc-AHex)-GLP-1(7-37);
 Arg^{26,34}Lys²³-(Glyc-AHex)-GLP-1(7-38);

 Val⁸Asp¹⁹Arg^{26,34}Lys²³-(Glyc-AHex)-GLP-1(7-36);
 Val⁸Asp¹⁷Arg^{28,34}Lys²³-(Glyc-AHex)-GLP-1(7-36);

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 36); Val⁸Asp¹⁹Arg^{26,34}Lys²³-(Glyc-AHex)-GLP-1(7-36)amide; Val⁸Asp¹⁷Arg^{28,34}Lys²³-(Glyc-AHex)-GLP-1(7-36)amide;

 10
 36); Val⁸Asp¹⁹Arg^{26,34}Lys²³-(Glyc-AHex)-GLP-1(7-36)amide; Val⁸Asp¹⁷Arg^{26,34}Lys²³-(Glyc-AHex)-GLP-1(7-37);

 10
 GLP-1(7-36)amide;

 Val⁸Asp¹⁹Arg^{26,34}Lys²³-(Glyc-AHex)-GLP-1(7-37);

 Val⁸Asp¹⁹Arg^{26,34}Lys²³-(Glyc-AHex)-GLP-1(7-37);

 Val⁸Asp¹⁷Arg^{26,34}Lys²³-(Glyc-AHex)-GLP-1(7-38);

 Arg^{26,34}Lys¹⁸-(Glyc-AHex)-GLP-1(7-36);
 Arg^{26,34}Lys¹⁸-(Glyc-AHex)-GLP-1(7-36)amide;

 Arg^{26,34}Lys¹⁸-(Glyc-AHex)-GLP-1(7-37);
 Arg^{26,34}Lys¹⁸-(Glyc-AHex)-GLP-1(7-38);

 Val⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glyc-AHex)-GLP-1(7-36);
 Val⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Glyc-AHex)-GLP-1(7-38);

 Val⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glyc-AHex)-GLP-1(7-36);
 Val⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Glyc-AHex)-GLP-1(7-36);

 Sol;
 Val⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glyc-AHex)-GLP-1(7-36)amide;

 Val⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glyc-AHex)-GLP-1(7-36)amide;
 Val⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Glyc-AHex)-GLP-1(7-36)amide;

 Val⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glyc-AHex)-GLP-1(7-36)amide;
 Val⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glyc-AHex)-GLP-1(7-37);

(Glyc-AHex)-GLP-1(7-38); Val[®]Asp¹⁷Arg^{26,34}Lys¹⁸-(Glyc-AHex)-GLP-1(7-38);

Arg^{26,34}Lys²³-(Glyc-AHex)-GLP-1(7-36);

Arg^{26,34}Lys²⁷-(Glyc-AHex)-GLP-1(7-36);

Arg^{26,34}Lys²³-(Glyc-AHex)-GLP-1(7-36)amide;

Arg^{26,34}Lys²⁷-(Glyc-AHex)-GLP-1(7-36)amide;

Arg^{26,34}Lys³⁹-(Glyc-AOct)-GLP-1(7-39); Gly^aArg³⁴Lys²⁶-(Glyc-AOct)-GLP-1(7-36); Gly⁸Arg²⁶Lys³⁴-(Glyc-AOct)-GLP-1(7-36); Gly⁸Arg²⁶Lys³⁴-(Glyc-AOct)-GLP-1(7-36)amide; Gly⁸Arg^{28,34}Lys³⁸-(Glyc-AOct)-GLP-1(7-36); Gly⁸Arg^{26,34}Lys³⁸-(Glyc-AOct)-GLP-1(7-Gly⁸Arg³⁴Lys²⁶-(Glyc-AOct)-GLP-1(7-36)amide; 30 36)amide; Gly⁸Arg²⁶Lys³⁴-(Glyc-AOct)-GLP-1(7-37); Gly⁸Arg³⁴Lys²⁶-(Glyc-AOct)-GLP-1(7-37); Gly8Arg26Lys34-(Glyc-AOct)-GLP-1(7-38); Glv⁸Arg^{26,34}Lys³⁶-(Glyc-AOct)-GLP-1(7-37); Glv⁸Arg^{26,34}Lys³⁸-(Glyc-AOct)-GLP-1(7-38); Gly⁸Arg³⁴Lys²⁶-(Glyc-AOct)-GLP-1(7-38)

- Arg²⁶Lys³⁴-(Glyc-AOct)-GLP-1(7-36); Arg³⁴Lys²⁶-(Glyc-AOct)-GLP-1(7-36); Arg^{26,34}Lys³⁶-(Glyc-AOct)-GLP-1(7-36); Arg²⁶Lys³⁴-(Glyc-AOct)-GLP-1(7-36)amide; Arg³⁴ Lys²⁶-(Glyc-AOct)-GLP-1(7-36)amide; Arg^{26,34}Lys³⁶-(Glyc-AOct)-GLP-1(7-36)amide; Arg²⁶Lys³⁴-(Glyc-AOct)-GLP-1(7-37); Arg³⁴Lys²⁶-(Glyc-AOct)-GLP-1(7-37); Arg^{26,34}Lys³⁶-(Glyc-AOct)-GLP-1(7-37); Arg²⁶Lys³⁴-(Glyc-AOct)-GLP-1(7-38); Arg³⁴Lys²⁶-(Glyc-AOct)-GLP-1(7-38); Arg^{28,34}Lys³⁸-(Glyc-AOct)-GLP-25 Arg³⁴Lys²⁶-(Glyc-AOct)-GLP-1(7-39); Arg²⁶Lys³⁴-(Glyc-AOct)-GLP-1(7-39); 1(7-38);
- Arg^{26,34}Lys²⁷-(Glyc-AHex)-GLP-1(7-36)amide; Arg^{26,34}Lys²⁷-(Glyc-AHex)-GLP-1(7-36); 15 Arg^{26,34}Lys²⁷-(Glyc-AHex)-GLP-1(7-38); Arg^{26,34}Lys²⁷-(Glyc-AHex)-GLP-1(7-37); Thr^aAsp¹⁹Arg^{26,34}Lys²⁷-(Glyc-AHex)-GLP-1(7-36); Thr^aAsp¹⁷Arg^{26,34}Lys²⁷-(Glyc-AHex)-GLP-1(7-36); Thr⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glyc-AHex)-GLP-1(7-36)amide; Thr⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Glyc-AHex)-GLP-1(7-36)amide; Thr⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glyc-AHex)-GLP-1(7-37); Thr⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glyc-AHex)-GLP-1(7-38); Thr⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Glyc-AHex)-GLP-1(7-38);
- Arg^{26,34}Lys²³-(Glyc-AHex)-GLP-1(7-37); Arg^{26,34}Lys²³-(Glyc-AHex)-GLP-1(7-38); 10 Thr^aAsp^{1a}Arg^{28,34}Lys²³-(Glyc-AHex)-GLP-1(7-36); Thr^aAsp¹⁷Arg^{28,34}Lys²³-(Glyc-AHex)-GLP-1(7-36); Thr^aAsp¹⁹Arg^{26,34}Lys²³-(Glyc-AHex)-GLP-1(7-36)amide; Thr^aAsp¹⁷Arg^{26,34}Lys²³-(Glyc-AHex)-GLP-1(7-36)amide; Thr⁸Asp¹⁹Arg^{26,34}Lys²³-(Glyc-AHex)-GLP-1(7-37); Thr⁸Asp¹⁹Arg^{28,34}Lys²³-(Glyc-AHex)-GLP-1(7-38); Thr⁸Asp¹⁷Arg^{26,34}Lys²³-(Glyc-AHex)-GLP-1(7-38);
- 36); Thr⁸Asp¹⁹Arg^{28,34}Lys¹⁸-(Glyc-AHex)-GLP-1(7-36)amide; Thr⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Glyc-AHex)-GLP-1(7-36)amide; Thr^aAsp¹⁹Arg^{26,34}Lys¹⁸-(Glyc-AHex)-GLP-1(7-37); Thr^aAsp¹⁹Arg^{26,34}Lys¹⁸-(Glyc-AHex)-GLP-1(7-38); Thr⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Glyc-AHex)-GLP-1(7-38); Arg^{26,34}Lys²³-(Glyc-AHex)-GLP-1(7-36)amide; Arg^{26,34}Lys²³-(Glyc-AHex)-GLP-1(7-36);
- GLP-1(7-36)amide; Ser^aAsp¹⁹Arg^{26,34}Lys²⁷-(Glyc-AHex)-GLP-1(7-37); Ser^aAsp¹⁹Arg^{26,34}Lys²⁷-(Glyc-AHex)-GLP-1(7-38); Ser⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Glyc-AHex)-GLP-1(7-38); Arg^{26,34}Lys¹⁸-(Glyc-AHex)-GLP-1(7-36)amide; Arg^{26,34}Lys¹⁸-(Glyc-AHex)-GLP-1(7-36); Arg^{26,34}Lys¹⁸-(Glyc-AHex)-GLP-1(7-38); Arg^{26,34}Lys¹⁸-(Glyc-AHex)-GLP-1(7-37);

Thr⁸Asp¹⁹Arg^{28,34}Lys¹⁸-(Glyc-AHex)-GLP-1(7-36); Thr⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Glyc-AHex)-GLP-1(7-

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38); Gly8Glu38Arg26,34Lys39-(Glyc-AOct)-GLP-1(7-39); Gly8Asp35Arg26.34Lys36-(Glyc-AOct)-GLP-1(7-36); Gly8Asp35Arg26,34Lys36-(Glyc-AOct)-GLP-1(7-36)amide; Gly⁸Asp³⁶Arg^{28,34}Lys³⁷-(Glyc-AOct)-GLP-1(7-37); Gly⁸Asp³⁷Arg^{26,34}Lys³⁸-(Glyc-AOct)-

Thr⁸Arg^{28,34}Lys³⁹-(Glyc-AOct)-GLP-1(7-39); Gly⁸Glu³⁵Arg^{26,34}Lys³⁶-(Glyc-AOct)-GLP-1(7-36); Gly8Glu35Arg26.34Lys36-(Glyc-AOct)-GLP-1(7-36)amide; Gly8Glu36Arg28,34Lys37-(Glyc-AOct)-GLP-1(7-37); Gly8Glu37Arg28,34Lys38-(Glyc-AOct)-Gly⁸Glu³⁸Arg^{26,34}Lys³⁹-(Glyc-AOct)-GLP-1(7-39); Gly⁸Glu³⁵Arg^{26,34}Lys³⁶-(Glyc-GLP-1(7-38); Gly8Glu35Arg26.34Lys36-(Glyc-AOct)-GLP-1(7-36)amide; AOct)-GLP-1(7-36); 30 Gly⁸Glu³⁶Arg^{26,34}Lys³⁷-(Glyc-AOct)-GLP-1(7-37); Gly8Glu37Arg26.34Lys38-(Glyc-AOct)-GLP-1(7-

	Ser ^s Arg ²⁶ Lys ³⁴ -(Glyc-AOct)-GLP-1(7-39);	Ser ^a Arg ³⁴ Lys ²⁸ -(Glyc-AOct)-GLP-1(7-39);
	Ser ^a Arg ^{26,34} Lys ³⁹ -(Glyc-AOct)-GLP-1(7-39);	
	Thr ^a Arg ²⁶ Lys ³⁴ -(Glyc-AOct)-GLP-1(7-36);	Thr ⁸ Arg ³⁴ Lys ²⁶ -(Glyc-AOct)-GLP-1(7-36);
20	Thr ^a Arg ^{28,34} Lys ³⁶ -(Glyc-AOct)-GLP-1(7-36);	Thr ⁸ Arg ²⁶ Lys ³⁴ -(Glyc-AOct)-GLP-1(7-36)amide;
	Thr8Arg34Lys26-(Glyc-AOct)-GLP-1(7-36)amide;	Thr ^a Arg ^{26,34} Lys ³⁶ -(Glyc-AOct)-GLP-1(7-
	36)amide; Thr ⁸ Arg ²⁶ Lys ³⁴ -(Glyc-AOct)-GLP-1(7	7-37); Thr ⁸ Arg ³⁴ Lys ²⁶ -(Glyc-AOct)-GLP-1(7-37);
	Thr ^a Arg ^{26,34} Lys ³⁶ -(Glyc-AOct)-GLP-1(7-37);	Thr ⁸ Arg ²⁶ Lys ³⁴ -(Glyc-AOct)-GLP-1(7-38);
	Thr ⁸ Arg ³⁴ Lys ²⁶ -(Glyc-AOct)-GLP-1(7-38) ;	Thr ^a Arg ^{26,34} Lys ³⁸ -(Glyc-AOct)-GLP-1(7-38);
25	Thr ^a Arg ²⁶ Lys ³⁴ -(Glyc-AOct)-GLP-1(7-39);	Thr ⁸ Arg ³⁴ Lys ²⁶ -(Glyc-AOct)-GLP-1(7-39);

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- Ser⁸Arg^{26,34}Lys³⁶-(Glyc-AOct)-GLP-1(7-37); 15 Ser⁸Arg³⁴Lys²⁶-(Glyc-AOct)-GLP-1(7-38)
- Val⁸Arg^{26,34}Lys³⁹-(Glyc-AOct)-GLP-1(7-39); Ser⁸Arg²⁶Lys³⁴-(Glyc-AOct)-GLP-1(7-36); Ser⁸Arg^{26,34}Lys³⁶-(Glyc-AOct)-GLP-1(7-36); Ser⁸Arg²⁸Lys³⁴-(Glyc-AOct)-GLP-1(7-36)amide; Ser⁸Arg³⁴Lys²⁶-(Glyc-AOct)-GLP-1(7-36)amide; 36)amide; Ser⁸Arg²⁸Lys³⁴-(Glyc-AOct)-GLP-1(7-37); Ser⁸Arg³⁴Lys²⁶-(Glyc-AOct)-GLP-1(7-37);
- Val⁸Arg³⁴Lys²⁶-(Glyc-AOct)-GLP-1(7-36)amide; 36)amide; Val[®]Arg²⁶Lys³⁴-(Glyc-AOct)-GLP-1(7-37); Val[®]Arg³⁴Lys²⁶-(Glyc-AOct)-GLP-1(7-37); Val⁸Arg^{26,34}Lys³⁶-(Glyc-AOct)-GLP-1(7-37); Val[®]Arg³⁴Lys²⁶-(Glyc-AOct)-GLP-1(7-38) Vai⁸Arg²⁶Lys³⁴-(Glyc-AOct)-GLP-1(7-39);
- Gly8Arg28.34Lys39-(Glyc-AOct)-GLP-1(7-39); Val⁸Arg²⁶Lys³⁴-(Glyc-AOct)-GLP-1(7-36); Val⁸Arg^{26,34}Lys³⁶-(Glyc-AOct)-GLP-1(7-36); Val⁸Arg²⁶Lys³⁴-(Glyc-AOct)-GLP-1(7-36)amide; 5

Gly⁸Arg²⁶Lys³⁴-(Glyc-AOct)-GLP-1(7-39);

Gly⁸Arg³⁴Lys²⁶-(Glyc-AOct)-GLP-1(7-39);

Val⁸Arg³⁴Lys²⁶-(Glyc-AOct)-GLP-1(7-36);

Val⁸Arg^{28,34}Lys³⁶-(Glyc-AOct)-GLP-1(7-

Val⁸Arg²⁶Lys³⁴-(Glyc-AOct)-GLP-1(7-38);

Val⁸Arg³⁴Lys²⁶-(Glyc-AOct)-GLP-1(7-39);

Ser⁴Arg³⁴Lys²⁶-(Glyc-AOct)-GLP-1(7-36);

Ser⁸Arg^{26,34}Lys³⁶-(Glyc-AOct)-GLP-1(7-

Ser⁸Arg²⁸Lys³⁴-(Glyc-AOct)-GLP-1(7-38);

Ser⁸Arg^{26,34}Lys³⁸-(Glyc-AOct)-GLP-1(7-38);

Val⁸Arg^{26,34}Lys³⁸-(Glyc-AOct)-GLP-1(7-38);

- 38); Ser⁸Asp³⁸Arg^{26,34}Lys³⁹-(Glyc-AOct)-GLP-1(7-39); Thr⁸Glu³⁵Arg^{26,34}Lys³⁶-(Glyc-AOct)-GLP-1(7-36); Thr^aGlu³⁵Arg^{26,34}Lys³⁶-(Glyc-AOct)-GLP-1(7-36)amide; Thr^aGlu³⁶Arg^{26,34}Lys³⁷-(Glyc-AOct)-GLP-1(7-37); Thr^aGlu³⁷Arg^{26,34}Lys³⁸-(Glyc-AOct)-30 GLP-1(7-38); Thr^aGlu³⁸Arg^{28,34}Lys³⁹-(Glyc-AOct)-GLP-1(7-39); Thr^aGlu³⁵Arg^{28,34}Lys³⁸-(Glyc-Thr⁸Glu³⁵Arg^{26,34}Lys³⁶-(Glyc-AOct)-GLP-1(7-36)amide; AOct)-GLP-1(7-36); Thr⁸Glu³⁶Arg^{28,34}Lys³⁷-(Givc-AOct)-GLP-1(7-37); Thr⁸Glu³⁷Arg^{26,34}Lys³⁸-(Glyc-AOct)-GLP-1(7-38); Thr^aGlu³⁸Arg^{26,34}Lys³⁹-(Glyc-AOct)-GLP-1(7-39);
- 38); Ser⁸Giu³⁸Arg^{26,34}Lys³⁹-(Glyc-AOct)-GLP-1(7-39); Ser⁸Asp³⁵Arg^{28,34}Lys³⁸-(Glyc-AOct)-GLP-1(7-36); Ser⁸Asp³⁵Arg^{28,34}Lys³⁸-(Glyc-AOct)-GLP-1(7-36)amide; Ser⁸Asp³⁶Arg^{26,34}Lys³⁷-(Glyc-AOct)-GLP-1(7-37); Ser⁸Asp³⁷Arg^{26,34}Lys³⁸-(Glyc-AOct)-GLP-1(7-38); Ser⁸Asp³⁸Arg^{26,34}Lys³⁹-(Glyc-AOct)-GLP-1(7-39); Ser⁸Asp³⁵Arg^{26,34}Lys³⁶-(Glyc-25 Ser⁸Asp³⁵Arg^{26,34}Lys³⁶-(Glyc-AOct)-GLP-1(7-36)amide; AOd)-GLP-1(7-36); Ser⁸Asp³⁶Arg^{26,34}Lys³⁷-(Glyc-AOct)-GLP-1(7-37); Ser⁸Asp³⁷Arg^{26,34}Lys³⁸-(Glyc-AOct)-GLP-1(7-
- 38); Val⁸Asp³⁸Arg^{26,34}Lys³⁹-(Glyc-AOct)-GLP-1(7-39); Ser^aGlu³⁵Arg^{26,34}Lys³⁶-(Glyc-AOct)-GLP-1(7-Ser⁸Glu³⁵Arg^{26,34}Lys³⁶-(Glyc-AOct)-GLP-1(7-36); 36)amide; Ser⁸Glu³⁶Arg^{26,34}Lys³⁷-(Glyc-AOct)-GLP-1(7-37); Ser⁸Glu³⁷Arg^{26,34}Lys³⁸-(Glyc-AOct)-Ser⁸Glu³⁸Arg^{26,34}Lys³⁹-(Glyc-AOct)-GLP-1(7-39); Ser⁸Glu³⁵Arg^{26,34}Lys³⁶-(Glyc-GLP-1(7-38); Ser⁸Glu³⁵Arg^{26,34}Lys³⁸-(Glyc-AOct)-GLP-1(7-36)amide; AOct)-GLP-1(7-36); 20 Ser⁸Glu³⁶Arg^{26,34}Lvs³⁷-(Glvc-AOct)-GLP-1(7-37); Ser⁸Glu³⁷Arg^{28,34}Lys³⁸-(Glyc-AOct)-GLP-1(7-
- Val⁸Asp³⁵Arg^{26,34}Lys³⁶-(Glyc-AOct)-GLP-1(7-36); Val⁸Asp³⁵Arg^{26,34}Lys³⁶-(Glyc-AOct)-GLP-1(7-36)amide; Val⁸Asp³⁶Arg^{26,34}Lys³⁷-(Glyc-AOct)-GLP-1(7-37); Val⁸Asp³⁷Arg^{26,34}Lys³⁸-(Glyc-AOct)-GLP-1(7-38); Val[®]Asp^{3®}Arg^{26,34}Lys³⁹-(Glyc-AOct)-GLP-1(7-39); Val[®]Asp³⁵Arg^{26,34}Lys³⁶-(Glyc-Val⁸Asp³⁵Arg^{26,34}Lys³⁶-(Glyc-AOct)-GLP-1(7-36)amide; AOct)-GLP-1(7-36); Val⁸Asp³⁶Arg^{26,34}Lvs³⁷-(Glvc-AOct)-GLP-1(7-37); Val⁶Asp³⁷Arg^{26,34}Lys³⁸-(Glyc-AOct)-GLP-1(7-15
- 38); Gly⁸Asp³⁸Arg^{26,34}Lys³⁹-(Glyc-AOct)-GLP-1(7-39); Val8Glu35Arg28,34Lys36-(Glyc-AOct)-GLP-1(7-Val⁸Glu³⁵Arg^{26,34}Lys³⁶-(Glyc-AOct)-GLP-1(7-36); 5 36)amide; Val⁸Glu³⁶Arg^{26,34}Lys³⁷-(Glyc-AOct)-GLP-1(7-37); Val⁶Glu³⁷Arg^{26,34}Lys³⁸-(Glyc-AOct)-GLP-1(7-38): Val⁸Glu³⁸Arg^{26,34}Lys³⁹-(Glyc-AOct)-GLP-1(7-39); Val⁸Glu³⁵Arg^{26,34}Lys³⁶-(Glyc-Val⁸Glu³⁵Arg^{26,34}Lys³⁶-(Glyc-AOct)-GLP-1(7-36)amide; AOct)-GLP-1(7-36); Val⁸Glu³⁶Arg^{26,34}Lys³⁷-(Glyc-AOct)-GLP-1(7-37); Val8Glu37Arg28,34Lys38-(Glyc-AOct)-GLP-1(7-38): Val⁸Glu³⁸Arg^{28,34}Lys³⁹-(Glyc-AOct)-GLP-1(7-39);
- Gly⁸Asp³⁸Arg^{26,34}Lys³⁹-(Glyc-AOct)-GLP-1(7-39); Gly⁸Asp³⁵Arg^{26,34}Lys³⁶-(Glyc-GLP-1(7-38); Gly⁸Asp³⁵Arg^{26,34}Lys³⁶-(Glyc-AOct)-GLP-1(7-36)amide; AOct)-GLP-1(7-36); Gly⁸Asp³⁸Arg^{26,34}Lys³⁷-(Glyc-AOct)-GLP-1(7-37); Gly⁸Asp³⁷Arg^{26,34}Lys³⁸-(Glyc-AOct)-GLP-1(7-

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Thr⁴Asp³⁵Arg^{26,34}Lys³⁶-(Glyc-AOct)-GLP-1(7-36)amide;

Thr⁸Asp³⁷Arg^{26,34}Lys³⁸-(Glyc-AOct)-GLP-1(7-

Arg^{26,34}Lys¹⁸-(Glyc-AOct)-GLP-1(7-36)amide;

Arg^{26,34}Lys¹⁸-(Glyc-AOct)-GLP-1(7-38);

36) amide; Thr⁸Asp³⁸Arg^{26,34}Lys³⁷-(Glyc-AOct)-GLP-1(7-37); Thr⁸Asp³⁷Arg^{26,34}Lys³⁸-(Glyc-AOct)-GLP-1(7-38); Thr^aAsp³⁸Arg^{28,34}Lys³⁹-(Glyc-AOct)-GLP-1(7-39); Thr^aAsp³⁵Arg^{28,34}Lys³⁶-(Glyc-

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AOct)-GLP-1(7-36);

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Thr⁴Asp³⁶Arg^{26,34}Lys³⁷-(Glyc-AOct)-GLP-1(7-37);

Arg^{26,34}Lys¹⁸-(Glyc-AOct)-GLP-1(7-36);

Arg^{26,34}Lys¹⁸-(Glyc-AOct)-GLP-1(7-37);

38); Thr^aAsp³⁸Arg^{26,34}Lys³⁹-(Glyc-AOct)-GLP-1(7-39);

36); Gly⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glyc-AOct)-GLP-1(7-36)amide; Gly⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Glyc-AOct)-GLP-1(7-36)amide; Gly⁸Asp¹⁸Arg^{26,34}Lys¹⁸-(Glyc-AOct)-GLP-1(7-37); Gly⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glyc-AOct)-GLP-1(7-38); Gly8Asp17Arg28,34Lys18-(Glyc-AOct)-GLP-1(7-38); Arg^{26,34}Lys²³-(Glyc-AOct)-GLP-1(7-36); Arg^{26,34}Lys²³-(Glyc-AOct)-GLP-1(7-36)amide; Arg^{26,34}Lys²³-(Glyc-AOct)-GLP-1(7-38); Arg^{28,34}Lys²³-(Glyc-AOct)-GLP-1(7-37); Gly⁸Asp¹⁹Arg^{26,34}Lys²³-(Glyc-AOct)-GLP-1(7-36); Gly⁸Asp¹⁷Arg^{26,34}Lys²³-(Glyc-AOct)-GLP-1(7-

Gly⁸Asp¹⁹Arg^{28,34}Lys¹⁸-(Glyc-AOct)-GLP-1(7-36); Gly⁸Asp¹⁷Arg^{28,34}Lys¹⁸-(Glyc-AOct)-GLP-1(7-

- 15
 - 36); Gly⁸Asp¹⁹Arg^{26,34}Lys²³-(Glyc-AOct)-GLP-1(7-36)amide; Gly⁸Asp¹⁷Arg^{26,34}Lys²³-(Glyc-AOct)-GLP-1(7-36)amide; Gly⁸Asp¹⁹Arg^{26,34}Lys²³-(Glyc-AOct)-GLP-1(7-37); Gly⁸Asp¹⁹Arg^{26,34}Lys²³-(Glyc-AOct)-GLP-1(7-38); Gly⁸Asp¹⁷Arg^{28,34}Lys²³-(Glyc-AOct)-GLP-1(7-38);
- Arg^{28,34}Lys²⁷-(Glyc-AOct)-GLP-1(7-36); Arg^{26,34}Lys²⁷-(Glyc-AOct)-GLP-1(7-36)amide; Arg^{26,34}Lys²⁷-(Glyc-AOct)-GLP-1(7-37); Arg^{26,34}Lys²⁷-(Glyc-AOct)-GLP-1(7-38); 20 Gly⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glyc-AOct)-GLP-1(7-36); Gly⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Glyc-AOct)-GLP-1(7-36); Gly⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glyc-AOct)-GLP-1(7-36)amide; Gly⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Glyc-AOct)-GLP-1(7-36)amide; Gly⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glyc-AOct)-GLP-1(7-37); Gly⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glyc-AOct)-GLP-1(7-38); Gly8Asp17Arg28,34Lys27-(Glyc-AOct)-GLP-1(7-38);
- Arg^{26,34}Lys¹⁸-(Glyc-AOct)-GLP-1(7-36); Arg^{26,34}Lys¹⁸-(Glyc-AOct)-GLP-1(7-36)amide; 25 Arg^{26,34}Lys¹⁸-(Glyc-AOct)-GLP-1(7-37); Arg^{26,34}Lys¹⁸-(Glyc-AOct)-GLP-1(7-38); Val⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glyc-AOct)-GLP-1(7-36); Val⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Glyc-AOct)-GLP-1(7-36); Val⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glyc-AOct)-GLP-1(7-36)amide; Val⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Glyc-AOct)-GLP-1(7-36)amide; Val⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glyc-AOct)-GLP-1(7-37); Val⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glyc-AOct)-GLP-1(7-38); Val⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Glyc-AOct)-GLP-1(7-38); 30
- Arg^{26,34}Lys²³-(Glyc-AOct)-GLP-1(7-36); Arg^{28,34}Lys²³-(Glyc-AOct)-GLP-1(7-36)amide; Arg^{26,34}Lys²³-(Glyc-AOct)-GLP-1(7-37); Arg^{26,34}Lys²³-(Glyc-AOct)-GLP-1(7-38); Val⁸Asp¹⁹Arg^{26,34}Lys²³-(Glyc-AOct)-GLP-1(7-36); Val⁸Asp¹⁷Arg^{26,34}Lys²³-(Glyc-AOct)-GLP-1(7-36); Val⁸Asp¹⁹Arg^{26,34}Lys²³-(Glyc-AOct)-GLP-1(7-36)amide; Val⁸Asp¹⁷Arg^{26,34}Lys²³-(Glyc-AOct)-

(Glyc-AOct)-GLP-1(7-38); Thr⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Glyc-AOct)-GLP-1(7-38); Arg26,34Lys23-(Glyc-AOct)-GLP-1(7-36)amide; Arg^{26,34}Lys²³-(Glyc-AOct)-GLP-1(7-36); Arg^{26,34}Lys²³-(Giyc-AOct)-GLP-1(7-38); Arg^{26,34}Lys²³-(Glyc-AOct)-GLP-1(7-37);

- (Glyc-AOct)-GLP-1(7-38); Ser⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Glyc-AOct)-GLP-1(7-38); Arg^{26,34}Lys¹⁸-(Glyc-AOct)-GLP-1(7-36)amide; Arg^{28,34}Lys¹⁸-(Glyc-AOct)-GLP-1(7-36); Arg^{26,34}Lys¹⁸-(Glyc-AOct)-GLP-1(7-38); Arg^{26,34}Lys¹⁸-(Glyc-AOct)-GLP-1(7-37); Thr⁸Asp¹⁸Arg^{26,34}Lys¹⁸-(Glyc-AOct)-GLP-1(7-36); Thr⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Glyc-AOct)-GLP-1(7-36); Thr^aAsp¹⁹Arg^{26,34}Lys¹⁸-(Glyc-AOct)-GLP-1(7-36)amide; Thr^aAsp¹⁷Arg^{26,34}Lys¹⁸-(Glyc-AOct)-30 GLP-1(7-36) amide; Thr⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Giyc-AOct)-GLP-1(7-37); Thr⁸Asp¹⁹Arg^{26,34}Lys¹⁸-
- (Glyc-AOct)-GLP-1(7-38); Ser⁸Asp¹⁷Arg^{28,34}Lys²³-(Glyc-AOct)-GLP-1(7-38); 20 Arg^{26,34}Lys²⁷-(Glyc-AOct)-GLP-1(7-36)amide; Arg^{26,34}Lys²⁷-(Glyc-AOct)-GLP-1(7-36); Arg^{26,34}Lys²⁷-(Glyc-AOct)-GLP-1(7-38); Arg^{26,34}Lys²⁷-(Glyc-AOct)-GLP-1(7-37); Ser⁸Asp¹⁹Arg^{28,34}Lys²⁷-(Glyc-AOct)-GLP-1(7-36); Ser⁸Asp¹⁷Arg^{28,34}Lys²⁷-(Glyc-AOct)-GLP-1(7-36); Ser[®]Asp¹⁹Arg^{26,34}Lys²⁷-(Glyc-AOct)-GLP-1(7-36)amide; Ser[®]Asp¹⁷Arg^{26,34}Lys²⁷-(Glyc-AOct)-GLP-1(7-36)amide; Ser⁸Asp¹⁹Arg^{28,34}Lys²⁷-(Glyc-AOct)-GLP-1(7-37); Ser⁸Asp¹⁹Arg^{28,34}Lys²⁷-25
- Arg^{26,34}Lys²³-(Glyc-AOct)-GLP-1(7-36)amide; Arg^{26,34}Lys²³-(Glyc-AOct)-GLP-1(7-36); 15 Arg^{28,34}Lys²³-(Glyc-AOct)-GLP-1(7-38); Arg^{28,34}Lys²³-(Glyc-AOct)-GLP-1(7-37); Ser⁸Asp¹⁹Arg^{28,34}Lys²³-(Glyc-AOct)-GLP-1(7-36); Ser⁸Asp¹⁷Arg^{28,34}Lys²³-(Glyc-AOct)-GLP-1(7-36); Ser⁸Asp¹⁹Arg^{26,34}Lys²³-(Glyc-AOct)-GLP-1(7-36)amide; Ser⁸Asp¹⁷Arg^{26,34}Lys²³-(Glyc-AOct)-GLP-1(7-36)amide; Ser⁸Asp¹⁸Arg^{28,34}Lys²³-(Glyc-AOct)-GLP-1(7-37); Ser⁸Asp¹⁹Arg^{28,34}Lys²³-
- Arg^{26,34}Lys¹⁸-(Glyc-AOct)-GLP-1(7-36); Arg^{26,34}Lys¹⁸-(Glyc-AOct)-GLP-1(7-38); Arg^{26,34}Lys¹⁸-(Glyc-AOct)-GLP-1(7-37); 10 Ser⁸Asp¹⁹Arg^{28,34}Lys¹⁸-(Glyc-AOct)-GLP-1(7-36); Ser⁸Asp¹⁷Arg^{28,34}Lys¹⁸-(Glyc-AOct)-GLP-1(7-36); Ser⁸Asp¹⁹Arg^{28,34}Lys¹⁸-(Glyc-AOct)-GLP-1(7-36)amide; Ser⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Glyc-AOct)-GLP-1(7-36)amide; Ser⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glyc-AOct)-GLP-1(7-37); Ser⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glyc-AOct)-GLP-1(7-38); Ser[®]Asp¹⁷Arg^{26,34}Lys¹⁸-(Glyc-AOct)-GLP-1(7-38);
- Arg^{26,34}Lys²⁷-(Glyc-AOct)-GLP-1(7-36); Arg^{26,34}Lys²⁷-(Glyc-AOct)-GLP-1(7-38); Arg^{26,34}Lys²⁷-(Glyc-AOct)-GLP-1(7-37); Val⁸Asp¹⁹Arg^{28,34}Lys²⁷-(Glyc-AOct)-GLP-1(7-36); Val⁸Asp¹⁷Arg^{28,34}Lys²⁷-(Glyc-AOct)-GLP-1(7-5 36); Val⁸Asp¹⁹Arg^{28,34}Lys²⁷-(Glyc-AOct)-GLP-1(7-36)amide; Val⁸Asp¹⁷Arg^{28,34}Lys²⁷-(Glyc-AOct)-GLP-1(7-36)amide; Val⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glyc-AOct)-GLP-1(7-37); Val⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glyc-AOct)-GLP-1(7-38); Val⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Glyc-AOct)-GLP-1(7-38);
- GLP-1(7-36)amide; Val⁸Asp¹⁸Arg^{26,34}Lys²³-(Glyc-AOct)-GLP-1(7-37); Val⁸Asp¹⁹Arg^{26,34}Lys²³-(Glyc-AOct)-GLP-1(7-38); Val⁸Asp¹⁷Arg^{28,34}Lys²³-(Glyc-AOct)-GLP-1(7-38); Arg^{26,34}Lys²⁷-(Glyc-AOct)-GLP-1(7-36)amide;

Arg^{26,34}Lys¹⁸-(Glyc-AOct)-GLP-1(7-36)amide;

Val⁸Arg³⁴Lys²⁶-(Glyc-ALit)-GLP-1(7-36)amia
 Val⁸Arg²⁶Lys³⁴-(Glyc-ALit)-GLP-1(7-37);
 Val⁸Arg^{25,34}Lys³⁸-(Glyc-ALit)-GLP-1(7-38)
 Val⁸Arg²⁶Lys³⁴-(Glyc-ALit)-GLP-1(7-39);
 Val⁸Arg^{26,34}Lys³⁹-(Glyc-ALit)-GLP-1(7-39);

- Gly*Arg**Lys**-(Glyc-ALit)-GLP-1(7-38) Gly*Arg²⁶Lys³⁴-(Glyc-ALit)-GLP-1(7-39); 25 Gly*Arg^{26,34}Lys³⁹-(Glyc-ALit)-GLP-1(7-39); Val*Arg^{26,34}Lys³⁶-(Glyc-ALit)-GLP-1(7-36); Val*Arg³⁴Lys²⁶-(Glyc-ALit)-GLP-1(7-36)amide;
- Gly⁸Arg³⁴Lys²⁶-(Glyc-ALit)-GLP-1(7-36)amide;
 Gly⁸Arg²⁶Lys³⁴-(Glyc-ALit)-GLP-1(7-37);
 Gly⁸Arg^{28,34}Lys²⁶-(Glyc-ALit)-GLP-1(7-37);
 Gly⁸Arg³⁴Lys²⁶-(Glyc-ALit)-GLP-1(7-38);
 Gly⁸Arg²⁶Lys³⁴-(Glyc-ALit)-GLP-1(7-39);
- Gly⁸Arg²⁶Lys³⁴-(Glyc-ALit)-GLP-1(7-36); Gly⁸Arg^{26,34}Lys³⁶-(Glyc-ALit)-GLP-1(7-36);

Val⁸Arg³⁴Lys²⁶-(Glyc-ALit)-GLP-1(7-36); Val⁸Arg²⁶Lys³⁴-(Glyc-ALit)-GLP-1(7-36)amide; Val⁸Arg^{26,34}Lys³⁶-(Glyc-ALit)-GLP-1(7-36)amide; Val⁸Arg³⁴Lys²⁶-(Glyc-ALit)-GLP-1(7-37); Val⁸Arg²⁶Lys³⁴-(Glyc-ALit)-GLP-1(7-38); Val⁸Arg^{26,34}Lys³⁸-(Glyc-ALit)-GLP-1(7-38); Val⁸Arg³⁴Lys²⁶-(Glyc-ALit)-GLP-1(7-39);

Gly⁸Arg²⁶Lys³⁴-(Glyc-ALit)-GLP-1(7-36)amide; Gly⁸Arg^{26,34}Lys³⁶-(Glyc-ALit)-GLP-1(7-36)amide; Gly⁸Arg³⁴Lys²⁶-(Glyc-ALit)-GLP-1(7-37); Gly⁸Arg²⁶Lys³⁴-(Glyc-ALit)-GLP-1(7-38); Gly⁸Arg^{26,34}Lys³⁸-(Glyc-ALit)-GLP-1(7-38); Gly⁸Arg³⁴Lys²⁶-(Glyc-ALit)-GLP-1(7-39);

Gly8Arg34Lys26-(Glyc-ALit)-GLP-1(7-36);

- (Glyc-AOct)-GLP-1(7-38); Thr⁸Asp¹⁷Arg^{28,34}Lys²⁷-(Glyc-AOct)-GLP-1(7-38); Arg²⁶Lys³⁴-(Glyc-ALit)-GLP-1(7-36); Arg³⁴Lys²⁶-(Glyc-ALit)-GLP-1(7-36); Arg^{28,34}Lys³⁶-(Glyc-ALit)-GLP-1(7-36)amide; Arg³⁴ Lys²⁶-(Glyc-ALit)-GLP-1(7-36)amide; Arg^{26,34}Lys³⁶-(Glyc-ALit)-GLP-1(7-37); Arg³⁴Lys²⁶-(Glyc-ALit)-GLP-1(7-37); Arg³⁴Lys²⁶-(Glyc-ALit)-GLP-1(7-37); Arg³⁴Lys²⁶-(Glyc-ALit)-GLP-1(7-37); Arg^{26,34}Lys³⁶-(Glyc-ALit)-GLP-1(7-38); Arg^{26,34}Lys³⁶-(Glyc-ALit)-GLP-1(7-38); Arg^{26,34}Lys²⁸-(Glyc-ALit)-GLP-1(7-38); Arg^{26,34}Lys³⁶-(Glyc-ALit)-GLP-1(7-38); Arg^{26,34}Lys³⁶-(Glyc-ALit)-GLP-1(7-39); Arg^{36,34}Lys³⁶-(Glyc-ALit)-GLP-1(7-39); Arg^{36,34}Lys³⁶-(Glyc-ALit)-GLP-1(7-39); Arg^{36,34}Lys³⁶-(Glyc-ALit)-GLP-1(7-39); Arg^{36,34}Lys³⁶-(Glyc-
- Arg26.34
Lys27-(Glyc-AOct)-GLP-1(7-36);Arg26.34
Lys27-(Glyc-AOct)-GLP-1(7-36)amide;Arg26.34
Lys27-(Glyc-AOct)-GLP-1(7-37);Arg26.34
Lys27-(Glyc-AOct)-GLP-1(7-38);Thr8Asp19
Arg26.34
Lys27-(Glyc-AOct)-GLP-1(7-36);Thr8Asp17
Arg26.34
Lys27-(Glyc-AOct)-GLP-1(7-36);36);Thr8Asp19
Arg26.34
Lys27-(Glyc-AOct)-GLP-1(7-36)amide;Thr8Asp19
Arg26.34
Lys27-(Glyc-AOct)-GLP-1(7-36)amide;Thr8Asp17
Arg26.34
Lys27-(Glyc-AOct)-GLP-1(7-36)amide;36);Thr8Asp19
Arg26.34
Lys27-(Glyc-AOct)-GLP-1(7-36)amide;Thr8Asp17
Arg26.34
Lys27-(Glyc-AOct)-GLP-1(7-36)amide;GLP-1(7-36)amide;Thr8Asp19
Arg26.34
Lys27-(Glyc-AOct)-GLP-1(7-37);Thr8Asp19
Arg26.34
Lys27-(Glyc-AOct)-GLP-1(7-37);
- Thr⁸Asp¹⁹Arg^{28,34}Lys²³-(Glyc-AOct)-GLP-1(7-36); Thr⁸Asp¹⁷Arg^{28,34}Lys²³-(Glyc-AOct)-GLP-1(7-36); Thr⁸Asp¹⁹Arg^{26,34}Lys²³-(Glyc-AOct)-GLP-1(7-36)amide; Thr⁸Asp¹⁷Arg^{26,34}Lys²³-(Glyc-AOct)-GLP-1(7-36)amide; Thr⁸Asp¹⁹Arg^{26,34}Lys²³-(Glyc-AOct)-GLP-1(7-37); Thr⁸Asp¹⁹Arg^{26,34}Lys²³-(Glyc-AOct)-GLP-1(7-38); Thr⁸Asp¹⁷Arg^{26,34}Lys²³-(Glyc-AOct)-GLP-1(7-38);

Val8Glu35Arg26,34Lys36-(Glyc-ALit)-GLP-1(7-Val⁸Glu³⁵Arg^{26,34}Lys³⁶-(Glyc-ALit)-GLP-1(7-36); 36)amide; Val⁸Glu³⁶Arg^{26,34}Lys³⁷-(Glyc-ALit)-GLP-1(7-37); Val⁸Glu³⁷Arg^{26,34}Lys³⁸-(Glyc-ALit)-30 GLP-1(7-38); Val⁸Glu³⁸Arg^{26,34}Lys³⁹-(Glyc-ALit)-GLP-1(7-39); Val⁸Glu³⁵Arg^{26,34}Lys³⁶-(Glyc-ALit)-GLP-1(7-36); Val⁸Glu³⁵Arg^{26,34}Lys³⁶-(Glyc-ALit)-GLP-1(7-36)amide; Val⁸Glu³⁶Arg^{26,34}Lys³⁷-(Glyc-ALit)-GLP-1(7-37); Val⁸Glu³⁷Arg^{26,34}Lys³⁸-(Glyc-ALit)-GLP-1(7-38); Val⁸Glu³⁸Arg^{26,34}Lys³⁹-(Glyc-ALit)-GLP-1(7-39);

Gly8Asp35Arg26,34Lys36-(Glyc-ALit)-GLP-1(7-Gly⁸Asp³⁵Arg^{28,34}Lys³⁶-(Glyc-ALit)-GLP-1(7-36); 36)amide; Gly⁸Asp³⁸Arg^{26,34}Lys³⁷-(Glyc-ALit)-GLP-1(7-37); Gly⁸Asp³⁷Arg^{26,34}Lys³⁸-(Glyc-ALit)-GLP-1(7-38); Gly⁸Asp³⁸Arg^{26,34}Lys³⁹-(Glyc-ALit)-GLP-1(7-39); Gly⁸Asp³⁵Arg^{26,34}Lys³⁶-(Glyc-ALit)-25 Gly⁸Asp³⁵Arg^{26,34}Lys³⁶-(Glyc-ALit)-GLP-1(7-36)amide; Gly⁸Asp³⁶Arg^{26,34}Lys³⁷-GLP-1(7-36): (Glyc-ALit)-GLP-1(7-37); Gly⁸Asp³⁷Arg^{26,34}Lys³⁸-(Glyc-ALit)-GLP-1(7-38); Gly⁸Asp³⁸Arg^{26,34}Lys³⁹-

Thr³Arg^{26,34}Lys³⁹-(Glyc-ALit)-GLP-1(7-39); Glv⁸Glu³⁵Arg^{26,34}Lys³⁶-(Glyc-ALit)-GLP-1(7-Gly⁸Glu³⁵Arg^{26,34}Lys³⁶-(Glyc-ALit)-GLP-1(7-36); 36)amide; Gly⁸Glu³⁶Arg^{26,34}Lys³⁷-(Glyc-ALit)-GLP-1(7-37); Gly⁸Glu³⁷Arg^{26,34}Lys³⁸-(Glyc-ALit)-GLP-1(7-38); Gly8Glu38Arg26.34Lys39-(Glyc-ALit)-GLP-1(7-39); Gly8Glu35Arg26.34Lys36-(Glyc-ALit)-GLP-1(7-36); Gly⁸Glu³⁵Arg^{26,34}Lys³⁶-(Glyc-ALit)-GLP-1(7-36)amide; Gly⁸Glu³⁶Arg^{26,34}Lys³⁷-(Glyc-20 ALit)-GLP-1(7-37); Gly8Glu37Arg26,34Lys38-(Glyc-ALit)-GLP-1(7-38); Gly8Glu38Arg26,34Lys39-(Glyc-

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- Thr⁸Arg^{26,34}Lys³⁶-(Glyc-ALit)-GLP-1(7-36): 10 Thr[®]Arg³⁴Lys²⁸-(Glyc-ALit)-GLP-1(7-36)amide; Thr[®]Arg^{28,34}Lys³⁸-(Glyc-ALit)-GLP-1(7-36)amide; Thr^aArg²⁶Lys³⁴-(Glyc-ALit)-GLP-1(7-37); Thr8Arg26.34Lys36-(Glyc-ALit)-GLP-1(7-37); Thr⁸Arg³⁴Lys²⁶-(Glyc-ALit)-GLP-1(7-38) Thr^aArg²⁶Lys³⁴-(Glyc-ALit)-GLP-1(7-39); 15
- 5 Ser⁸Arg³⁴Lys²⁶-(Glyc-ALit)-GLP-1(7-38) i Ser⁸Arg²⁶Lys³⁴-(Glyc-ALit)-GLP-1(7-39); Ser⁸Arg^{26,34}Lys³⁹-(Glyc-ALit)-GLP-1(7-39); Thr^aArg²⁶Lys³⁴-(Glyc-ALit)-GLP-1(7-36);
- Ser^aArg²⁶Lys³⁴-(Glyc-ALit)-GLP-1(7-36); Ser8Arg26,34Lys36-(Glyc-ALit)-GLP-1(7-36); Ser⁸Arg³⁴Lys²⁶-(Glyc-ALit)-GLP-1(7-36)amide; Ser⁸Arg^{26,34}Lys³⁶-(Glyc-ALit)-GLP-1(7-36)amide; Ser⁸Arg²⁶Lys³⁴-(Glyc-ALit)-GLP-1(7-37); Ser⁸Arg^{28,34}Lys³⁶-(Glyc-ALit)-GLP-1(7-37);

Ser⁸Arg³⁴Lys²⁶-(Glyc-ALit)-GLP-1(7-39); Thr⁸Arg³⁴Lys²⁸-(Glyc-ALit)-GLP-1(7-36); Thr⁸Arg²⁶Lys³⁴-(Glyc-ALit)-GLP-1(7-36)amide; Thr⁸Arg³⁴Lys²⁶-(Glyc-ALit)-GLP-1(7-37); Thr⁸Arg²⁶Lys³⁴-(Glyc-ALit)-GLP-1(7-38); Thr⁸Arg^{28,34}Lys³⁸-(Glyc-ALit)-GLP-1(7-38); Thr⁸Arg³⁴Lys²⁶-(Glyc-ALit)-GLP-1(7-39);

Ser⁸Arg³⁴Lys²⁸-(Glyc-ALit)-GLP-1(7-36); Ser⁸Arg²⁸Lys³⁴-(Glyc-ALit)-GLP-1(7-36)amide; Ser⁸Arg³⁴Lys²⁶-(Glyc-ALit)-GLP-1(7-37); Ser⁸Arg²⁶Lys³⁴-(Glyc-ALit)-GLP-1(7-38); Ser⁸Arg^{26,34}Lys³⁸-(Glyc-ALit)-GLP-1(7-38);

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ALit)-GLP-1(7-39);

(Glyc-ALit)-GLP-1(7-39);

PCT/DK99/00082

25 Thr⁸Asp³⁵Arg^{26,34}Lys³⁶-(Glyc-ALit)-GLP-1(7-36); Thr⁸Asp³⁵Arg^{26,34}Lys³⁸-(Glyc-ALit)-GLP-1(7-36); Thr⁸Asp³⁶Arg^{26,34}Lys³⁷-(Glyc-ALit)-GLP-1(7-37); Thr⁸Asp³⁷Arg^{26,34}Lys³⁸-(Glyc-ALit)-GLP-1(7-38); Thr⁸Asp³⁸Arg^{26,34}Lys³⁹-(Glyc-ALit)-GLP-1(7-36); Thr⁸Asp³⁵Arg^{26,34}Lys³⁸-(Glyc-ALit)-GLP-1(7-36); Thr⁸Asp³⁵Arg^{26,34}Lys³⁸-(Glyc-ALit)-GLP-1(7-36); Thr⁸Asp³⁵Arg^{26,34}Lys³⁸-(Glyc-ALit)-GLP-1(7-36); Thr⁸Asp³⁵Arg^{26,34}Lys³⁸-(Glyc-ALit)-GLP-1(7-36); Thr⁸Asp³⁵Arg^{26,34}Lys³⁸-(Glyc-ALit)-GLP-1(7-36); Thr⁸Asp³⁶Arg^{26,34}Lys³⁸-(Glyc-ALit)-GLP-1(7-38); Thr⁸Asp³⁶Arg^{26,34}Lys³⁹-(Glyc-ALit)-GLP-1(7-38); Thr⁸Asp³⁶Arg^{26,34}L

Thr⁸Glu³⁵Arg^{28,34}Lys³⁸-(Glyc-ALit)-GLP-1(7-36); Thr⁸Glu³⁵Arg^{28,34}Lys³⁸-(Glyc-ALit)-GLP-1(7-36)amide; Thr⁸Glu³⁶Arg^{26,34}Lys³⁷-(Glyc-ALit)-GLP-1(7-37); Thr⁸Glu³⁷Arg^{26,34}Lys³⁸-(Glyc-ALit)-GLP-1(7-38); Thr⁸Glu³⁸Arg^{28,34}Lys³⁹-(Glyc-ALit)-GLP-1(7-39); Thr⁸Glu³⁶Arg^{26,34}Lys³⁸-(Glyc-ALit)-GLP-1(7-36); Thr⁸Glu³⁵Arg^{28,34}Lys³⁸-(Glyc-ALit)-GLP-1(7-36)amide; Thr⁸Glu³⁶Arg^{26,34}Lys³⁷-(Glyc-ALit)-GLP-1(7-37); Thr⁸Glu³⁷Arg^{26,34}Lys³⁸-(Glyc-ALit)-GLP-1(7-38); Thr⁸Glu³⁸Arg^{26,34}Lys³⁹-(Glyc-ALit)-GLP-1(7-39);

36)amide; Ser⁸Asp³⁶Arg^{26,34}Lys³⁷-(Glyc-ALit)-GLP-1(7-37); Ser⁸Asp³⁷Arg^{26,34}Lys³⁸-(Glyc-ALit) GLP-1(7-38); Ser⁸Asp³⁸Arg^{26,34}Lys³⁹-(Glyc-ALit)-GLP-1(7-39); Ser⁸Asp³⁵Arg^{26,34}Lys³⁸-(Glyc-ALit) GLP-1(7-36); Ser⁸Asp³⁵Arg^{26,34}Lys³⁶-(Glyc-ALit)-GLP-1(7-36)amide; Ser⁸Asp³⁶Arg^{26,34}Lys³⁷ (Glyc-ALit)-GLP-1(7-37); Ser⁸Asp³⁷Arg^{26,34}Lys³⁸-(Glyc-ALit)-GLP-1(7-38); Ser⁸Asp³⁸Arg^{26,34}Lys³⁹ (Glyc-ALit)-GLP-1(7-39); Ser⁸Asp³⁷Arg^{26,34}Lys³⁸-(Glyc-ALit)-GLP-1(7-38); Ser⁸Asp³⁸Arg^{26,34}Lys³⁹-

GLP-1(7-36), Ser'Glu⁻³Arg^{26,34}Lys³⁸-(Glyc-ALit)-GLP-1(7-36)amide; Ser'Glu⁻³⁸Arg^{26,34}Lys³⁹-(Glyc-ALit)-GLP-1(7-37); Ser⁸Glu³⁷Arg^{26,34}Lys³⁸-(Glyc-ALit)-GLP-1(7-38); Ser⁸Glu³⁸Arg^{26,34}Lys³⁹-(Glyc-ALit)-GLP-1(7-39); Ser⁸Asp³⁵Arg^{28,34}Lys³⁸-(Glyc-ALit)-GLP-1(7-36); Ser⁸Asp³⁵Arg^{26,34}Lys³⁸-(Glyc-ALit)-GLP-1(7-

ALit)-GLP-1(7-39);
 Ser⁸Glu³⁵Arg^{26,34}Lys³⁶-(Glyc-ALit)-GLP-1(7-36);
 Ser⁸Glu³⁵Arg^{26,34}Lys³⁶-(Glyc-ALit)-GLP-1(7-37);
 Ser⁸Glu³⁵Arg^{26,34}Lys³⁸-(Glyc-ALit)-GLP-1(7-37);
 Ser⁸Glu³⁵Arg^{26,34}Lys³⁸-(Glyc-ALit)-GLP-1(7-39);
 Ser⁸Glu³⁵Arg^{26,34}Lys³⁸-(Glyc-ALit)-GLP-1(7-39);
 Ser⁸Glu³⁵Arg^{26,34}Lys³⁸-(Glyc-ALit)-GLP-1(7-36)amide;
 Ser⁸Glu³⁵Arg^{26,34}Lys³⁷-(Glyc-ALit)-GLP-1(7-36)amide;

Val⁸Asp³⁵Arg^{28,34}Lys³⁶-(Glyc-ALit)-GLP-1(7-36); Val⁸Asp³⁵Arg^{28,34}Lys³⁶-(Glyc-ALit)-GLP-1(7-36)amide; Val⁸Asp³⁸Arg^{28,34}Lys³⁷-(Glyc-ALit)-GLP-1(7-37); Val⁸Asp³⁷Arg^{28,34}Lys³⁸-(Glyc-ALit)-GLP-1(7-38); Val⁸Asp³⁸Arg^{28,34}Lys³⁹-(Glyc-ALit)-GLP-1(7-39); Val⁸Asp³⁵Arg^{28,34}Lys³⁶-(Glyc-ALit)-GLP-1(7-36); Val⁸Asp³⁵Arg^{26,34}Lys³⁶-(Glyc-ALit)-GLP-1(7-36)amide; Val⁸Asp³⁶Arg^{26,34}Lys³⁷-(Glyc-ALit)-GLP-1(7-37); Val⁸Asp³⁷Arg^{26,34}Lys³⁸-(Glyc-ALit)-GLP-1(7-38); Val⁸Asp³⁶Arg^{26,34}Lys³⁹-(Glyc-

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Val⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Glyc-ALit)-GLP-1(7-38); Arg^{26,34}Lys¹⁸-(Glyc-ALit)-GLP-1(7-36); Arg^{26,34}Lys¹⁸-(Glyc-ALit)-GLP-1(7-36)amide; Arg^{28,34}Lys¹⁸-(Glyc-ALit)-GLP-1(7-37); Arg^{26,34}Lys¹⁸-(Glyc-ALit)-GLP-1(7-38); Ser⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glyc-

- Val⁸Asp¹⁷Arg^{28,34}Lys²⁷-(Glyc-ALit)-GLP-1(7-38);
 Arg^{26,34}Lys²⁷-(Glyc-ALit)-GLP-1(7-36); Arg^{26,34}Lys²⁷-(Glyc-ALit)-GLP-1(7-36)amide; Arg^{26,34}Lys²⁷-(Glyc-ALit)-GLP-1(7-38); Val⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glyc-ALit)-GLP-1(7-36); Val⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glyc-ALit)-GLP-1(7-36); Val⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glyc-ALit)-GLP-1(7-36); Val⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glyc-ALit)-GLP-1(7-36); Val⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glyc-ALit)-GLP-1(7-36); Val⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glyc-ALit)-GLP-1(7-36)amide; Val⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glyc-ALit)-GLP-1(7-36)amide; Val⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glyc-ALit)-GLP-1(7-36); Val⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glyc-ALit)-GLP-1(7-36); Val⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glyc-ALit)-GLP-1(7-36)amide; Val⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glyc-ALit)-GLP-1(7-36); Val⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glyc-ALit)-GLP-1(7-36); Val⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glyc-ALit)-GLP-1(7-36); Val⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glyc-ALit)-GLP-1(7-38); Val⁸Asp¹⁹Arg^{26,34}
- Val⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Glyc-ALit)-GLP-1(7-38); Arg^{26,34}Lys²³-(Glyc-ALit)-GLP-1(7-36); Arg^{26,34}Lys²³-(Glyc-ALit)-GLP-1(7-36)amide; Arg^{26,34}Lys²³-(Glyc-ALit)-GLP-1(7-38); Val⁸Asp¹⁹Arg^{26,34}Lys²³-(Glyc-ALit)-GLP-1(7-36); Val⁸Asp¹⁹Arg^{26,34}Lys²³-(Glyc-ALit)-GLP-1(7-36); Val⁸Asp¹⁹Arg^{26,34}Lys²³-(Glyc-ALit)-GLP-1(7-36); Val⁸Asp¹⁹Arg^{26,34}Lys²³-(Glyc-ALit)-GLP-1(7-36); Val⁸Asp¹⁹Arg^{26,34}Lys²³-(Glyc-ALit)-GLP-1(7-36)amide;
 Val⁸Asp¹⁹Arg^{26,34}Lys²³-(Glyc-ALit)-GLP-1(7-37); Val⁸Asp¹⁹Arg^{26,34}Lys²³-(Glyc-ALit)-GLP-1(7-38);
- 15 Arg^{26,34}Lys¹⁸-(Glyc-ALit)-GLP-1(7-36); Arg^{26,34}Lys¹⁸-(Glyc-ALit)-GLP-1(7-36)amide; Arg^{26,34}Lys¹⁸-(Glyc-ALit)-GLP-1(7-37); Arg^{28,34}Lys¹⁸-(Glyc-ALit)-GLP-1(7-38); Val⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glyc-ALit)-GLP-1(7-36); Val⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Glyc-ALit)-GLP-1(7-36); Val⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glyc-ALit)-GLP-1(7-36)amide; Val⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Glyc-ALit)-GLP-1(7-36); Val⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glyc-ALit)-GLP-1(7-36)amide; Val⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Glyc-ALit)-GLP-1(7-36)amide; Val⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glyc-ALit)-GLP-1(7-36)amide; Val⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glyc-ALit)-GLP-1(7-37); Val⁸Asp¹⁹Arg^{28,34}Lys¹⁸-(Glyc-ALit)-GLP-1(7-38);
- Arg^{26,34}Lys²⁷-(Glyc-ALit)-GLP-1(7-36); Arg^{28,34}Lys²⁷-(Glyc-ALit)-GLP-1(7-36)amide; Arg^{26,34}Lys²⁷-(Glyc-ALit)-GLP-1(7-37); Arg^{26,34}Lys²⁷-(Glyc-ALit)-GLP-1(7-38); Gly⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glyc-ALit)-GLP-1(7-36); Gly⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Glyc-ALit)-GLP-1(7-36); Gly⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glyc-ALit)-GLP-1(7-36)amide; Gly⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Glyc-ALit)-GLP-1(7-36)amide; Gly⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glyc-ALit)-GLP-1(7-36)amide; Gly⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glyc-ALit)-GLP-1(7-37); Gly⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glyc-ALit)-GLP-1(7-38); Gly⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Glyc-ALit)-GLP-1(7-38); Gly⁸Asp¹⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Glyc-ALit)-GLP-1(7-38); Gly⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Glyc-ALit)-GLP-1(7-38); Gly⁸Asp¹⁸Asp¹⁸Asp¹⁸Asp¹⁸Asp¹⁸Asp¹⁸Asp¹⁸Asp¹⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glyc-ALit)-GLP-1(7-38); Gly⁸Asp¹⁸Asp
- Arg^{26,34}Lys²³-(Glyc-ALit)-GLP-1(7-36); Arg^{26,34}Lys²³-(Glyc-ALit)-GLP-1(7-36)amide; Arg^{26,34}Lys²³-(Glyc-ALit)-GLP-1(7-38); Gly⁸Asp¹⁹Arg^{26,34}Lys²³-(Glyc-ALit)-GLP-1(7-36); Gly⁸Asp¹⁹Arg^{26,34}Lys²³-(Glyc-ALit)-GLP-1(7-36); Gly⁸Asp¹⁹Arg^{26,34}Lys²³-(Glyc-ALit)-GLP-1(7-36); Gly⁸Asp¹⁹Arg^{26,34}Lys²³-(Glyc-ALit)-GLP-1(7-36); Gly⁸Asp¹⁹Arg^{26,34}Lys²³-(Glyc-ALit)-GLP-1(7-36); Gly⁸Asp¹⁹Arg^{26,34}Lys²³-(Glyc-ALit)-GLP-1(7-36); Gly⁸Asp¹⁹Arg^{26,34}Lys²³-(Glyc-ALit)-GLP-1(7-36); Gly⁸Asp¹⁹Arg^{26,34}Lys²³-(Glyc-ALit)-GLP-1(7-36); Gly⁸Asp¹⁹Arg^{26,34}Lys²³-(Glyc-ALit)-GLP-1(7-37); Gly⁸Asp¹⁹Arg^{26,34}Lys²³-(Glyc-ALit)-GLP-1(7-38); Gly⁸Asp¹⁷Arg^{26,34}Lys²³-(Glyc-ALit)-GLP-1(7-38);
- Gly⁸Asp¹⁸Arg^{26,34}Lys¹⁸-(Glyc-ALit)-GLP-1(7-37); Gly⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glyc-ALit)-GLP-1(7-38); Gly⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Glyc-ALit)-GLP-1(7-38);

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 $\label{eq:arg26.34} Arg^{26.34}Lys^{27}-(Glyc-ALit)-GLP-1(7-36); Arg^{26.34}Lys^{27}-(Glyc-ALit)-GLP-1(7-36)amide; Arg^{26.34}Lys^{27}-(Glyc-ALit)-GLP-1(7-38); Thr^8Asp^{19}Arg^{26.34}Lys^{27}-(Glyc-ALit)-GLP-1(7-36); Thr^8Asp^{19}Arg^{26.34}Lys^{27}-(Glyc-ALit)-GLP-1(7-36); Thr^8Asp^{19}Arg^{26.34}Lys^{27}-(Glyc-ALit)-GLP-1(7-36); Thr^8Asp^{19}Arg^{26.34}Lys^{27}-(Glyc-ALit)-GLP-1(7-36)amide; Thr^8Asp^{19}Arg^{26.34}Lys^{27}-(Glyc-ALit)-GLP-1(7-37); Thr^8Asp^{19}Arg^{26.34}Lys^{27}-(Glyc-ALit)-GLP-1(7-38); Thr^8Asp^{19}Arg^{26.34}Lys^{27}-(Glyc-ALit)-GLP-1(7-37); Thr^8Asp^{19}Arg^{26.34}Lys^{27}-(Glyc-ALit)-GLP-1(7-38); Thr^8Asp^{17}Arg^{26.34}Lys^{27}-(Glyc-ALit)-GLP-1(7-38); Thr^8Asp^{17}Arg^{26.34$

(Glyc-ALit)-GLP-1(7-37); Arg^{26,34}Lys²³-(Glyc-ALit)-GLP-1(7-38); Thr⁸Asp¹⁹Arg^{26,34}Lys²³-(Glyc-ALit)-GLP-1(7-36); Thr⁸Asp¹⁹Arg^{26,34}Lys²³-(Glyc-ALit)-GLP-1(7-36); Thr⁸Asp¹⁹Arg^{26,34}Lys²³-(Glyc-ALit)-GLP-1(7-36)amide; Thr⁸Asp¹⁹Arg^{26,34}Lys²³-(Glyc-ALit)-GLP-1(7-36)amide; Thr⁸Asp¹⁹Arg^{26,34}Lys²³-(Glyc-ALit)-GLP-1(7-37); Thr⁸Asp¹⁹Arg^{26,34}Lys²³-(Glyc-ALit)-GLP-1(7-38); Thr⁸Asp¹⁷Arg^{26,34}Lys²³-(Glyc-ALit)-GLP-1(7-38);

Arg^{26,34}Lys²³-(Glyc-ALit)-GLP-1(7-36); Arg^{26,34}Lys²³-(Glyc-ALit)-GLP-1(7-36)amide; Arg^{26,34}Lys²³-

(Glyc-ALit)-GLP-1(7-37); Arg^{26,34}Lys¹⁸-(Glyc-ALit)-GLP-1(7-38); Thr⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glyc-ALit)-GLP-1(7-36); Thr⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glyc-ALit)-GLP-1(7-36); Thr⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glyc-ALit)-GLP-1(7-36)amide; Thr⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glyc-ALit)-GLP-1(7-37); Thr⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glyc-ALit)-GLP-1(7-38); Thr⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Glyc-ALit)-GLP-1(7-38);

Arg^{26,34}Lys¹⁸-(Glyc-ALit)-GLP-1(7-36); Arg^{26,34}Lys¹⁸-(Glyc-ALit)-GLP-1(7-36)amide; Arg^{26,34}Lys¹⁸-

 Arg^{26,34}Lys²⁷-(Glyc-ALit)-GLP-1(7-36); Arg^{26,34}Lys²⁷-(Glyc-ALit)-GLP-1(7-36)amide; Arg^{26,34}Lys²⁷-(Glyc-ALit)-GLP-1(7-38); Ser⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glyc-ALit)-GLP-1(7-36); Ser⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glyc-ALit)-GLP-1(7-36); Ser⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glyc-ALit)-GLP-1(7-36); Ser⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glyc-ALit)-GLP-1(7-36)amide;

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 Ser⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glyc-ALit)-GLP-1(7-37); Ser⁸Asp¹⁹Arg^{26,34}Lys²⁷-(Glyc-ALit)-GLP-1(7-38); Ser⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Glyc-ALit)-GLP-1(7-38); Ser⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Glyc-ALit)-GLP-1(7-38); Ser⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Glyc-ALit)-GLP-1(7-38); Ser⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Glyc-ALit)-GLP-1(7-38); Ser⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Glyc-ALit)-GLP-1(7-38); Ser⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Glyc-ALit)-GLP-1(7-38); Ser⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Slyc-ALit)-GLP-1(7-38); Ser⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Slyc-ALit)-Ser⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Slyc-ALit)-Ser⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Slyc-ALit)-Ser⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Slyc-ALit)-Ser⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Slyc-ALit)-Ser⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Slyc-ALit)-Ser⁸Asp¹⁷Arg^{26,34}Lys²⁷-(Slyc-ALit)-Ser⁸Asp¹

Ser⁸Asp¹⁷Arg^{26,34}Lys²³-(Glyc-ALit)-GLP-1(7-38);

 Ser⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Glyc-ALit)-GLP-1(7-38);

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 Arg^{28,34}Lys²³-(Glyc-ALit)-GLP-1(7-36); Arg^{26,34}Lys²³-(Glyc-ALit)-GLP-1(7-36)amide; Arg^{26,34}Lys²³-(Glyc-ALit)-GLP-1(7-38); Ser⁸Asp¹⁹Arg^{26,34}Lys²³-(Glyc-ALit)-GLP-1(7-36); Ser⁸Asp¹⁹Arg^{26,34}Lys²³-(Glyc-ALit)-GLP-1(7-36); Ser⁸Asp¹⁹Arg^{26,34}Lys²³-(Glyc-ALit)-GLP-1(7-36); Ser⁸Asp¹⁹Arg^{26,34}Lys²³-(Glyc-ALit)-GLP-1(7-36); Ser⁸Asp¹⁹Arg^{26,34}Lys²³-(Glyc-ALit)-GLP-1(7-36)amide; Ser⁸Asp¹⁹Arg^{26,34}Lys²³-(Glyc-ALit)-GLP-1(7-36)amide; Ser⁸Asp¹⁹Arg^{26,34}Lys²³-(Glyc-ALit)-GLP-1(7-37); Ser⁸Asp¹⁹Arg^{26,34}Lys²³-(Glyc-ALit)-GLP-1(7-38);

ALit)-GLP-1(7-36); Ser⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(Glyc-ALit)-GLP-1(7-36); Ser⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(Glyc-ALit)-GLP-1(7-36)amide; ALit)-GLP-1(7-36)amide; Ser⁸Asp¹⁷Arg^{28,34}Lys¹⁸-(Glyc-ALit)-GLP-1(7-36)amide; Ser⁸Asp¹⁹Arg^{28,34}Lys¹⁸-(Glyc-ALit)-GLP-1(7-38);

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Ser⁴Arg²⁶Lys³⁴-(GAB-GDod)-GLP-1(7-39); Ser⁸Arg^{26,34}Lys³⁹-(GAB-GDod)-GLP-1(7-39): Thr^aArg²⁶Lys³⁴-(GAB-GDod)-GLP-1(7-36); Thr Arg26,34 Lys36-(GAB-GDod)-GLP-1(7-36); Thr⁸Arg³⁴Lys²⁸-(GAB-GDod)-GLP-1(7-36)amide;

Thr⁸Arg³⁴Lys²⁶-(GAB-GDod)-GLP-1(7-36); Thr^aArg²⁶Lys³⁴-(GAB-GDod)-GLP-1(7-36)amide; Thrang 26,34 Lys 36-(GAB-GDod)-GLP-1(7-

- Ser^aArg²⁸Lys³⁴-(GAB-GDod)-GLP-1(7-36)amide; Ser⁸Arg^{26,34}Lys³⁶-(GAB-GDod)-GLP-1(7-36); 25 Ser⁸Arg^{26,34}Lys³⁶-(GAB-GDod)-GLP-1(7-Ser⁸Arg³⁴Lys²⁸-(GAB-GDod)-GLP-1(7-36)amide; 36)amide; Ser⁸Arg²⁶Lys³⁴-(GAB-GDod)-GLP-1(7-37); Ser⁸Arg³⁴Lys²⁶-(GAB-GDod)-GLP-1(7-Ser⁸Arg²⁶Lys³⁴-(GAB-GDod)-GLP-1(7-38); 37); Ser⁸Arg^{26,34}Lys³⁶-(GAB-GDod)-GLP-1(7-37); Ser⁸Arg^{26,34}Lys³⁸-(GAB-GDod)-GLP-1(7-38); Ser^aArg³⁴Lys²⁵-(GAB-GDod)-GLP-1(7-38) Ser⁸Arg³⁴Lys²⁶-(GAB-GDod)-GLP-1(7-39); 30
- 36)amide; Val[®]Arg²⁶Lys³⁴-(GAB-GDod)-GLP-1(7-37); Val[®]Arg³⁴Lys²⁶-(GAB-GDod)-GLP-1(7-37); Val⁸Arg²⁶Lys³⁴-(GAB-GDod)-GLP-1(7-38); Val⁸Arg^{26,34}Lys³⁶-(GAB-GDod)-GLP-1(7-37); 20 Val⁸Arg^{28,34}Lys³⁸-(GAB-GDod)-GLP-1(7-38); Val⁸Arg³⁴Lys²⁶-(GAB-GDod)-GLP-1(7-38) Val⁸Arg³⁴Lys²⁶-(GAB-GDod)-GLP-1(7-39); Val[®]Arg²⁶Lys³⁴-(GAB-GDod)-GLP-1(7-39); Val⁸Arg^{26,34}Lys³⁹-(GAB-GDod)-GLP-1(7-39); Ser⁸Arg³⁴Lys²⁸-(GAB-GDod)-GLP-1(7-36); Ser³Arg²⁶Lys³⁴-(GAB-GDod)-GLP-1(7-36);
- Glv⁸Arg^{26,34}Lys³⁹-(GAB-GDod)-GLP-1(7-39); 15 Val8Arg34Lys26-(GAB-GDod)-GLP-1(7-36); Val⁸Arg²⁶Lys³⁴-(GAB-GDod)-GLP-1(7-36); Val8Arg26Lys34-(GAB-GDod)-GLP-1(7-36)amide; Val⁸Arg^{26,34}Lys³⁶-(GAB-GDod)-GLP-1(7-36); Val⁸Arg^{28.34}Lys³⁸-(GAB-GDod)-GLP-1(7-Val[®]Arg³⁴Lys^{2®}-(GAB-GDod)-GLP-1(7-36)amide;
- 36)amide; Gly⁸Arg²⁶Lys³⁴-(GAB-GDod)-GLP-1(7-37); Gly⁸Arg³⁴Lys²⁶-(GAB-GDod)-GLP-1(7-37); Glv⁸Arg^{26,34}Lys³⁶-(GAB-GDod)-GLP-1(7-37); Gly⁸Arg³⁴Lys²⁶-(GAB-GDod)-GLP-1(7-38) Gly8Arg26Lys34-(GAB-GDod)-GLP-1(7-39);
 - Gly⁸Arg²⁶Lys³⁴-(GAB-GDod)-GLP-1(7-38); Gly⁸Arg^{26,34}Lys³⁸-(GAB-GDod)-GLP-1(7-38); Gly8Arg34Lys26-(GAB-GDod)-GLP-1(7-39);
- (GAB-GDod)-GLP-1(7-39); Arg^{26,34}Lys³⁹-(GAB-GDod)-GLP-1(7-39); Gly8Arg34Lys28-(GAB-GDod)-GLP-1(7-36); Glv⁸Arg²⁶Lys³⁴-(GAB-GDod)-GLP-1(7-36); Gly⁸Arg²⁶Lys³⁴-(GAB-GDod)-GLP-1(7-36)amide; Glv⁸Arg^{26,34}Lys³⁸-(GAB-GDod)-GLP-1(7-36); Gly8Arg28,34Lys36-(GAB-GDod)-GLP-1(7-Glv⁸Arg³⁴Lvs²⁶-(GAB-GDod)-GLP-1(7-36)amide;
- Arg^{26,34}Lys³⁶-Arg³⁴Lys²⁶-(GAB-GDod)-GLP-1(7-36); Arg²⁶Lys³⁴-(GAB-GDod)-GLP-1(7-36); Arg³⁴Lys²⁶-(GAB-Arg²⁶Lys³⁴-(GAB-GDod)-GLP-1(7-36)amide; (GAB-GDod)-GLP-1(7-36); GDod)-GLP-1(7-36)amide; Arg^{26,34}Lys³⁶-(GAB-GDod)-GLP-1(7-36)amide; Arg²⁶ Lys³⁴-(GAB-GDod)-GLP-1(7-37); Arg³⁴Lys²⁸-(GAB-GDod)-GLP-1(7-37); Arg^{26,34}Lys³⁸-(GAB-GDod)-GLP-Arg28Lys34-(GAB-GDod)-GLP-1(7-38); Arg³⁴Lys²⁶-(GAB-GDod)-GLP-1(7-38) 1(7-37); 5 Arg^{28,34}Lys³³-(GAB-GDod)-GLP-1(7-38); Arg²⁶Lys³⁴-(GAB-GDod)-GLP-1(7-39); Arg³⁴Lys²⁶-

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- 30 Ser⁸Glu³⁵Arg^{28,34}Lys³⁶-(GAB-GDod)-GLP-1(7-36); Ser⁸Glu³⁵Arg^{26,34}Lys³⁶-(GAB-GDod)-GLP-1(7-36)amide; Ser⁸Glu³⁶Arg^{28,34}Lys³⁷-(GAB-GDod)-GLP-1(7-37); Ser⁸Glu³⁷Arg^{26,34}Lys³⁸-(GAB-GDod)-GLP-1(7-38); Ser⁸Glu³⁸Arg^{26,34}Lys³⁹-(GAB-GDod)-GLP-1(7-39); Ser⁸Glu³⁵Arg^{26,34}Lys³⁶-(GAB-GDod)-GLP-1(7-36); Ser⁸Glu³⁵Arg^{26,34}Lys³⁶-(GAB-GDod)-GLP-1(7-36)amide;
- Val⁸Asp³⁵Arg^{26,34}Lys³⁸-(GAB-GDod)-GLP-1(7-36); Val⁹Asp³⁵Arg^{26,34}Lys³⁶-(GAB-GDod)-GLP-1(7-27); Val⁹Asp³⁷Arg^{28,34}Lys³⁸-(GAB-GDod)-GLP-1(7-37); Val⁹Asp³⁵Arg^{28,34}Lys³⁸-(GAB-GDod)-GLP-1(7-39); Val⁹Asp³⁵Arg^{26,34}Lys³⁶-(GAB-GDod)-GLP-1(7-39); Val⁹Asp³⁵Arg^{26,34}Lys³⁶-(GAB-GDod)-GLP-1(7-36); Val⁹Asp³⁵Arg^{26,34}Lys³⁶-(GAB-GDod)-GLP-1(7-36)amide; Val⁸Asp³⁶Arg^{26,34}Lys³⁷-(GAB-GDod)-GLP-1(7-37); Val⁹Asp³⁵Arg^{26,34}Lys³⁸-(GAB-GDod)-GLP-1(7-36)amide; Val⁸Asp³⁶Arg^{26,34}Lys³⁷-(GAB-GDod)-GLP-1(7-37); Val⁹Asp³⁵Arg^{26,34}Lys³⁸-(GAB-GDod)-GLP-1(7-38); Val⁹Asp³⁵Arg^{26,34}Lys³⁹-(GAB-GDod)-GLP-1(7-38); Val⁹Asp³⁵Arg^{26,34}Lys³⁸-(GAB-GDod)-GLP-1(7-38); Val⁹Asp³⁵Arg^{26,34}Lys³⁸-(GAB-GDod)-GLP-1(7-38); Val⁹Asp³⁵Arg^{26,34}Lys³⁹-(GAB-GDod)-GLP-1(7-38); Val⁹Asp³⁶Arg^{26,34}Lys³⁹-(GAB-GDod)-GLP-1(7-38); Val⁹Asp³⁵Arg^{26,34}Lys³⁹-(GAB-GDod)-GLP-1(7-38); Val⁹Asp³⁵Arg^{26,34}Lys³⁹-(GAB-GDod)-GLP-1(7-38); Val⁹Asp³⁸Arg^{26,34}Lys³⁹-(GAB-GDod)-GLP-1(7-39);
- Val⁹Glu⁻⁴Arg^{-4,7}Lys³⁷-(GAB-GDod)-GLP-1(7-36); Val⁶Glu³⁷Arg^{26,34}Lys³⁸-(GAB-GDod)-GLP-1(7-37); Val⁸Glu³⁷Arg^{26,34}Lys³⁸-(GAB-GDod) GLP-1(7-38); Val⁸Glu³⁸Arg^{26,34}Lys³⁹-(GAB-GDod)-GLP-1(7-39); Val⁸Glu³⁵Arg^{26,34}Lys³⁶-(GAB-GDod)-GLP-1(7-36); Val⁸Glu³⁵Arg^{26,34}Lys³⁶-(GAB-GDod)-GLP-1(7-36)amide; Val⁸Glu³⁶Arg^{26,34}Lys³⁷-(GAB-GDod)-GLP-1(7-37); Val⁸Glu³⁷Arg^{26,34}Lys³⁸-(GAB-GDod)-GLP-1(7-36)amide; Val⁸Glu³⁶Arg^{26,34}Lys³⁷-(GAB-GDod)-GLP-1(7-37); Val⁸Glu³⁷Arg^{26,34}Lys³⁸-(GAB-GDod)-GLP-1(7-38); Val⁸Glu³⁸Arg^{26,34}Lys³⁹-(GAB-GDod)-GLP-1(7-37); Val⁸Glu³⁷Arg^{26,34}Lys³⁸-(GAB-GDod)-GLP-1(7-38); Val⁸Glu³⁸Arg^{26,34}Lys³⁹-(GAB-GDod)-GLP-1(7-39);
- (GAB-GDod)-GLP-1(7-36); Gly⁸Asp³⁵Arg^{28,34}Lys³⁶-(GAB-GDod)-GLP-1(7-36)amide; Gly⁸Asp³⁶Arg^{26,34}Lys³⁷-(GAB-GDod)-GLP-1(7-37); Gly⁸Asp³⁷Arg^{26,34}Lys³⁸-(GAB-GDod)-GLP-1(7-38); Gly⁸Asp³⁸Arg^{26,34}Lys³⁹-(GAB-GDod)-GLP-1(7-39); Val⁸Glu³⁵Arg^{26,34}Lys³⁶-(GAB-GDod)-GLP-1(7-36); Val⁸Glu³⁵Arg^{26,34}Lys³⁶-(GAB-GDod)-36, Val⁸Arg³⁶-(GAB-GDod)-36, Val⁸Arg³⁶-(GAB-GDod)-36, Val⁸Arg³⁶-(GAB-GDod)-36, V
- 38); Gly⁸Glu³⁸Arg^{28,34}Lys³⁹-(GAB-GDod)-GLP-1(7-39);
 Gly⁸Asp³⁵Arg^{26,34}Lys³⁶-(GAB-GDod)-GLP-1(7-36); Gly⁸Asp³⁵Arg^{26,34}Lys³⁸-(GAB-GDod)-GLP-1(7-36);
 Gly⁸Asp³⁶Arg^{26,34}Lys³⁷-(GAB-GDod)-GLP-1(7-37); Gly⁸Asp³⁷Arg^{26,34}Lys³⁸-(GAB-GDod)-GLP-1(7-38); Gly⁸Asp³⁸Arg^{26,34}Lys³⁹-(GAB-GDod)-GLP-1(7-39); Gly⁸Asp³⁵Arg^{26,34}Lys³⁶ (GAB-GDod)-GLP-1(7-36); Gly⁸Asp³⁵Arg^{26,34}Lys³⁶-(GAB-GDod)-GLP-1(7-36)amide;
- 5 Thr⁸Arg^{26,34}Lys³⁹-(GAB-GDod)-GLP-1(7-39); Gly⁸Glu³⁵Arg^{26,34}Lys³⁶-(GAB-GDod)-GLP-1(7-36); Gly⁸Glu³⁵Arg^{26,34}Lys³⁸-(GAB-GDod)-GLP-1(7-36); Gly⁸Glu³⁶Arg^{26,34}Lys³⁷-(GAB-GDod)-GLP-1(7-37); Gly⁸Glu³⁵Arg^{26,34}Lys³⁸-(GAB-GDod)-GLP-1(7-39); Gly⁸Glu³⁵Arg^{26,34}Lys³⁸-(GAB-GDod)-GLP-1(7-39); Gly⁸Glu³⁵Arg^{26,34}Lys³⁸-(GAB-GDod)-GLP-1(7-36); Gly⁸Glu³⁵Arg^{26,34}Lys³⁶-(GAB-GDod)-GLP-1(7-36); Gly⁸Glu³⁵Arg^{26,34}Lys³⁶-(GAB-GDod)-GLP-1(7-36); Gly⁸Glu³⁵Arg^{26,34}Lys³⁶-(GAB-GDod)-GLP-1(7-36); Gly⁸Glu³⁵Arg^{26,34}Lys³⁶-(GAB-GDod)-GLP-1(7-36); Gly⁸Glu³⁵Arg^{26,34}Lys³⁶-(GAB-GDod)-GLP-1(7-36)); Gly⁸Glu³⁶Arg^{26,34}Lys³⁶-(GAB-GDod)-GLP-1(7-36)); Gly⁸Glu³⁶Arg^{26,34}Cy⁸Glu³⁶-(GAB-GDod)-GLP-1(7-36)); Gly⁸Glu³⁶-(GAB-GDod)-GLP
- 36)amide; Thr⁸Arg²⁶Lys³⁴-(GAB-GDod)-GLP-1(7-37); Thr⁸Arg³⁴Lys²⁶-(GAB-GDod)-GLP-1(7-37);
 Thr⁸Arg²⁶Lys³⁴-(GAB-GDod)-GLP-1(7-38);

 Thr⁸Arg²⁶Lys²⁶-(GAB-GDod)-GLP-1(7-38);
 Thr⁸Arg²⁶Lys³⁴-(GAB-GDod)-GLP-1(7-38);

 Thr⁸Arg²⁶Lys³⁴-(GAB-GDod)-GLP-1(7-39);
 Thr⁸Arg³⁴Lys²⁶-(GAB-GDod)-GLP-1(7-39);

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Ser^aGlu³⁶Arg^{28,34}Lys³⁷-(GAB-GDod)-GLP-1(7-37); Ser^aGlu³⁷Arg^{28,34}Lys³⁸-(GAB-GDod)-GLP-1(7-38); Ser^aGlu³⁸Arg^{26,34}Lys³⁹-(GAB-GDod)-GLP-1(7-39);

Ser⁸Asp³⁵Arg^{26,34}Lys³⁶-(GAB-GDod)-GLP-1(7-36); Ser⁸Asp³⁵Arg^{26,34}Lys³⁶-(GAB-GDod)-GLP-1(7-Ser⁸Asp³⁶Arg^{28,34}Lys³⁷-(GAB-GDod)-GLP-1(7-37); Ser⁸Asp³⁷Arg^{28,34}Lys³⁸-(GAB-36)amide:

- GDod)-GLP-1(7-38); Ser^aAsp³⁸Arg^{26,34}Lys³⁹-(GAB-GDod)-GLP-1(7-39); Ser^aAsp³⁵Arg^{26,34}Lys³⁶-5 Ser⁸Asp³⁵Arg^{28,34}Lys³⁶-(GAB-GDod)-GLP-1(7-36)amide; (GAB-GDod)-GLP-1(7-36); Ser⁸Asp³⁶Arg^{28,34}Lys³⁷-(GAB-GDod)-GLP-1(7-37); Ser⁸Asp³⁷Arg^{28,34}Lys³⁸-(GAB-GDod)-GLP-1(7-38); Ser⁸Asp³⁸Arg^{28,34}Lys³⁹-(GAB-GDod)-GLP-1(7-39);
- Thr^aGlu³⁵Arg^{26,34}Lys³⁶-(GAB-GDod)-GLP-1(7-36); Thr^aGlu³⁵Arg^{26,34}Lys³⁶-(GAB-GDod)-GLP-1(7-Thr⁸Glu³⁶Arg^{26,34}Lys³⁷-(GAB-GDod)-GLP-1(7-37); Thr^aGlu³⁷Arg^{28,34}Lys³⁸-(GAB-36)amide; 10 GDod)-GLP-1(7-38); Thr⁸Giu³⁸Arg^{26,34}Lys³⁹-(GAB-GDod)-GLP-1(7-39); Thr⁸Giu³⁵Arg^{26,34}Lys³⁶-Thr⁸Glu³⁵Arg^{26,34}Lys³⁶-(GAB-GDod)-GLP-1(7-36)amide; (GAB-GDod)-GLP-1(7-36); Thr⁸Glu³⁶Arg^{26,34}Lys³⁷-(GAB-GDod)-GLP-1(7-37); Thr⁸Glu³⁷Arg^{26,34}Lys³⁸-(GAB-GDod)-GLP-1(7-

38); Thr^aGlu³⁸Arg^{28,34}Lys³⁹-(GAB-GDod)-GLP-1(7-39);

- Thr⁸Asp³⁵Arg^{26,34}Lys³⁸-(GAB-GDod)-GLP-1(7-36); Thr⁸Asp³⁵Arg^{26,34}Lys³⁶-(GAB-GDod)-GLP-1(7-15 Thr⁸Asp³⁶Arg^{26,34}Lys³⁷-(GAB-GDod)-GLP-1(7-37); Thr⁸Asp³⁷Arg^{26,34}Lys³⁸-(GAB-36)amide: GDod)-GLP-1(7-38); Thr^aAsp³⁸Arg^{26,34}Lys³⁹-(GAB-GDod)-GLP-1(7-39); Thr^aAsp³⁵Arg^{26,34}Lys³⁶-Thr⁸Asp³⁵Arg^{26,34}Lys³⁶-(GAB-GDod)-GLP-1(7-36)amide; (GAB-GDod)-GLP-1(7-36); Thr8Asp36Arg26.34Lys37-(GAB-GDod)-GLP-1(7-37); Thr8Asp37Arg26.34Lys38-(GAB-GDod)-GLP-1(7-38); Thr⁸Asp³⁸Arg^{26,34}Lys³⁹-(GAB-GDod)-GLP-1(7-39);
- Arg^{26,34}Lys¹⁸-(GAB-GDod)-GLP-1(7-36)amide; Arg^{26,34}Lys¹⁸-(GAB-GDod)-GLP-1(7-36); Arg^{26,34}Lys¹⁸-(GAB-GDod)-GLP-1(7-38); Arg^{26,34}Lys¹⁸-(GAB-GDod)-GLP-1(7-37); Gly8Asp18Arg28.34Lys18-(GAB-GDod)-GLP-1(7-36); Gly8Asp17Arg28.34Lys18-(GAB-GDod)-GLP-1(7-Gly⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(GAB-Gly⁸Asp¹⁸Arg^{26,34}Lys¹⁸-(GAB-GDod)-GLP-1(7-36)amide; 36); Gly⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(GAB-GDod)-GLP-1(7-37); GDod)-GLP-1(7-36)amide; 25 Gly8Asp18Arg26.34Lys18-(GAB-GDod)-GLP-1(7-38); Gly8Asp17Arg26.34Lys18-(GAB-GDod)-GLP-1(7-38);
 - Arg^{28,34}Lys²³-(GAB-GDod)-GLP-1(7-36);

Arg^{26,34}Lys²³-(GAB-GDod)-GLP-1(7-36)amide, Arg^{26,34}Lys²³-(GAB-GDod)-GLP-1(7-38);

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Arg^{26,34}Lys²³-(GAB-GDod)-GLP-1(7-37); Gly8Asp18Arg2634Lys22-(GAB-GDod)-GLP-1(7-36); Gly8Asp17Arg2634Lys22-(GAB-GDod)-GLP-1(7-Gly⁸Asp¹⁷Arg^{26,34}Lys²³-(GAB-Gly⁸Asp¹⁹Arg^{26,34}Lys²³-(GAB-GDod)-GLP-1(7-36)amide; 36); Gly⁸Asp¹⁹Arg^{26,34}Lys²³-(GAB-GDod)-GLP-1(7-37); GDod)-GLP-1(7-36)amide; Gly⁸Asp¹⁹Arg^{26,34}Lys²²-(GAB-GDod)-GLP-1(7-38); Gly⁸Asp¹⁷Arg^{26,34}Lys²²-(GAB-GDod)-GLP-1(7-

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Arg^{26,34}Lys²³-(GAB-GDod)-GLP-1(7-36); Arg^{26,34}Lys²³-(GAB-GDod)-GLP-1(7-36)amide; Arg^{26,34}Lys²³-(GAB-GDod)-GLP-1(7-37); Arg^{26,34}Lys²³-(GAB-GDod)-GLP-1(7-38); Val⁸Asp¹⁹Arg^{26,34}Lys²³-(GAB-GDod)-GLP-1(7-36); Val⁸Asp¹⁷Arg^{26,34}Lys²³-(GAB-GDod)-GLP-1(7-36); Val⁸Asp¹⁹Arg^{26,34}Lys²³-(GAB-GDod)-GLP-1(7-36)amide; Val⁸Asp¹⁷Arg^{26,34}Lys²³-(GAB-GDod)-GLP-1(7-37); Val⁸Asp¹⁹Arg^{26,34}Lys²³-(GAB-GDod)-GLP-1(7-37); Val⁸Asp¹⁹Arg^{26,34}Lys²³-(GAB-GDod)-GLP-1(7-37); Val⁸Asp¹⁹Arg^{26,34}Lys²³-(GAB-GDod)-GLP-1(7-37); Val⁸Asp¹⁹Arg^{26,34}Lys²³-(GAB-GDod)-GLP-1(7-38); Val⁸Asp¹⁷Arg^{26,34}Lys²³-(GAB-GDod)-GLP-1(7-37); Val⁸Asp¹⁹Arg^{26,34}Lys²³-(GAB-GDod)-GLP-1(7-37); Val⁸Asp¹⁹Arg^{26,34}Lys²³-(GAB-GDod)-GLP-1(7-37); Val⁸Asp¹⁹Arg^{26,34}Lys²³-(GAB-GDod)-GLP-1(7-37); Val⁸Asp¹⁹Arg^{26,34}Lys²³-(GAB-GDod)-GLP-1(7-37); Val⁸Asp¹⁹Arg^{26,34}Lys²³-(GAB-GDod)-GLP-1(7-37); Val⁸Asp¹⁹Arg^{26,34}Lys²³-(GAB-GDod)-GLP-1(7-38); Val⁸Asp¹⁷Arg^{26,34}Lys²³-(GAB-GDod)-GLP-1(7-37); Val⁸Asp¹⁹Arg^{26,34}Lys²³-(GAB-GDod)-GLP-1(7-38); Val⁸Asp¹⁷Arg^{26,34}Lys²³-(GAB-GDod)-GLP-1(7-37); Val⁸Asp¹⁹Arg^{26,34}Lys²³-(GAB-GDod)-GLP-1(7-38); Val⁸Asp¹⁷Arg^{26,34}Lys²³-(GAB-GDod)-GLP-1(7-38); Val⁸Asp¹⁷Arg^{26,34}Lys²³-(GAB-GDod

 38);

 Arg^{28,34}Lys²⁷-(GAB-GDod)-GLP-1(7-36);
 Arg^{28,34}Lys²⁷-(GAB-GDod)-GLP-1(7-36)amide;

 Arg^{28,34}Lys²⁷-(GAB-GDod)-GLP-1(7-37);
 Arg^{28,34}Lys²⁷-(GAB-GDod)-GLP-1(7-38);

 Val⁸Asp¹⁹Arg^{26,34}Lys²⁷-(GAB-GDod)-GLP-1(7-36);
 Val⁸Asp¹⁷Arg^{26,34}Lys²⁷-(GAB-GDod)-GLP-1(7-36);

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 36);
 Val⁸Asp¹⁹Arg^{26,34}Lys²⁷-(GAB-GDod)-GLP-1(7-36)amide;

GDod)-GLP-1(7-36)amide; Val⁸Asp¹⁹Arg^{26,34}Lys²⁷-(GAB-GDod)-GLP-1(7-37); Val⁸Asp¹⁹Arg^{26,34}Lys²⁷-(GAB-GDod)-GLP-1(7-38); Val⁸Asp¹⁷Arg^{26,34}Lys²⁷-(GAB-GDod)-GLP-1(7-38); Val⁹Asp¹⁷Arg^{26,34}Lys²⁷-(GAB-GDod)-GLP-1(7-38); Val⁹Asp¹⁷Arg^{26,34}Lys²⁷-(GAB-GDod)-Asp¹⁷Arg¹⁷Arg^{26,34}Lys²⁷-(GAB-GDod)-Asp¹⁷Arg¹⁷Arg¹⁷-(GAB-GDod)-Asp¹⁷Asp¹⁷Asp¹⁷Asp¹⁷-(GAB-GDod)-Asp¹⁷Asp¹⁷-(GAB-GDod)-Asp¹⁷-(GAB-GDod)-Asp¹⁷-(GAB-GDod)-Asp¹⁷-(GAB-GDOd)-Asp¹⁷-(GAB-GDOd)-Asp¹⁷-(GAB-GDOd)-Asp¹⁷-(GAB-GDOd)-Asp¹⁷-(GAB-GDOd)-

 Arg^{28,34}Lys¹⁸-(GAB-GDod)-GLP-1(7-36);
 Arg^{28,34}Lys¹⁸-(GAB-GDod)-GLP-1(7-36)amide;

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 Arg^{28,34}Lys¹⁸-(GAB-GDod)-GLP-1(7-37);
 Arg^{28,34}Lys¹⁸-(GAB-GDod)-GLP-1(7-38);

 30
 Arg^{28,34}Lys¹⁸-(GAB-GDod)-GLP-1(7-37);
 Arg^{28,34}Lys¹⁸-(GAB-GDod)-GLP-1(7-38);

 30
 Ser⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(GAB-GDod)-GLP-1(7-36);
 Ser⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(GAB-GDod)-GLP-1(7-38);

 30
 Ser⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(GAB-GDod)-GLP-1(7-36);
 Ser⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(GAB-GDod)-GLP-1(7-38);

 30
 Ser⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(GAB-GDod)-GLP-1(7-36)amide;
 Ser⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(GAB-GDod)-GLP-1(7-36)amide;

38); Arg^{26,34}Lys²⁷-(GAB-GDod)-GLP-1(7-36); Arg^{26,34}Lys²⁷-(GAB-GDod)-GLP-1(7-36)amide; Arg^{26,34}Lys²⁷-(GAB-GDod)-GLP-1(7-37); Thr⁸Asp¹⁹Arg^{26,34}Lys²⁷-(GAB-GDod)-GLP-1(7-36); Thr⁸Asp¹⁹Arg^{26,34}Lys²⁷-(GAB-GDod)-GLP-1(7-36)amide; Thr⁸Asp¹⁹Arg^{26,34}Lys²⁷-(GAB-GDod)-GLP-1(7-36)amide;

- Arg^{26,34}Lys²³-(GAB-GDod)-GLP-1(7-36);
 Arg^{26,34}Lys²³-(GAB-GDod)-GLP-1(7-36)amide;

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 Arg^{26,34}Lys²³-(GAB-GDod)-GLP-1(7-37);
 Arg^{26,34}Lys²³-(GAB-GDod)-GLP-1(7-38);

 Thr⁸Asp¹⁹Arg^{26,34}Lys²³-(GAB-GDod)-GLP-1(7-36);
 Thr⁸Asp¹⁷Arg^{26,34}Lys²³-(GAB-GDod)-GLP-1(7-38);

 36);
 Thr⁸Asp¹⁹Arg^{26,34}Lys²³-(GAB-GDod)-GLP-1(7-36)amide;
 Thr⁸Asp¹⁷Arg^{26,34}Lys²³-(GAB-GDod)-GLP-1(7-36)amide;

 GDod)-GLP-1(7-36)amide;
 Thr⁸Asp¹⁹Arg^{26,34}Lys²³-(GAB-GDod)-GLP-1(7-37);
 Thr⁸Asp¹⁹Arg^{26,34}Lys²³-(GAB-GDod)-GLP-1(7-37);

 Thr⁸Asp¹⁹Arg^{26,34}Lys²³-(GAB-GDod)-GLP-1(7-38);
 Thr⁸Asp¹⁷Arg^{26,34}Lys²³-(GAB-GDod)-GLP-1(7-37);
- 38); Arg^{26,34}Lys¹⁸-(GAB-GDod)-GLP-1(7-36); Arg^{26,34}Lys¹⁸-(GAB-GDod)-GLP-1(7-37); Thr⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(GAB-GDod)-GLP-1(7-36); Thr⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(GAB-GDod)-GLP-1(7-36); Thr⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(GAB-GDod)-GLP-1(7-36)amide; GDod)-GLP-1(7-36)amide; Thr⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(GAB-GDod)-GLP-1(7-38); Thr⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(GAB-GDod)-GLP-1(7-37); Thr⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(GAB-GDod)-GLP-1(7-38); Thr⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(GAB-GDod)-GLP-1(7-37); Thr⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(GAB-GDod)-GLP-1(7-38); Thr⁸Asp¹⁹Arg^{26,}
- 38);
 10 Arg^{26,34}Lys²⁷-(GAB-GDod)-GLP-1(7-36); Arg^{26,34}Lys²⁷-(GAB-GDod)-GLP-1(7-36)amide; Arg^{26,34}Lys²⁷-(GAB-GDod)-GLP-1(7-37); Arg^{26,34}Lys²⁷-(GAB-GDod)-GLP-1(7-38); Ser⁸Asp¹⁹Arg^{26,34}Lys²⁷-(GAB-GDod)-GLP-1(7-36); Ser⁸Asp¹⁷Arg^{26,34}Lys²⁷-(GAB-GDod)-GLP-1(7-36); Ser⁸Asp¹⁹Arg^{26,34}Lys²⁷-(GAB-GDod)-GLP-1(7-36)amide, Ser⁸Asp¹⁷Arg^{26,34}Lys²⁷-(GAB-GDod)-GLP-1(7-37); Ser⁸Asp¹⁹Arg^{26,34}Lys²⁷-(GAB-GDod)-GLP-1(7-38); Ser⁸Asp¹⁹Arg^{26,34}Lys²⁷-(GAB-GDod)-GLP-1(7-37); Ser⁸Asp¹⁹Arg^{26,34}Lys²⁷-(GAB-GDod)-GLP-1(7-38); Ser⁸Asp¹⁷Arg^{26,34}Lys²⁷-(GAB-GDod)-GLP-1(7-37); Arg^{26,34}Lys²⁷-(GAB-GDod)-GLP-1(7-38); Ser⁸Asp¹⁷Arg^{26,34}Lys²⁷-(GAB-GDod)-GLP-1(7-37); Arg^{26,34}Lys²⁷-(GAB-GDod)-GLP-1(7-38); Ser⁸Asp¹⁷Arg^{26,34}Lys²⁷-(GAB-GDod)-GLP-1(7-37); Arg^{26,34}Lys²⁷-(GAB-GDod)-GLP-1(7-38); Ser⁸Asp¹⁷Arg^{26,34}Lys²⁷-(GAB-GDod)-GLP-1(7-37); Arg^{26,34}Lys²⁷-(GAB-GDod)-GLP-1(7-38); Ser⁸Asp¹⁷Arg^{26,34}Lys²⁷-(GAB-GDod)-GLP-1(7-38); Ser⁸Asp¹⁷Arg^{26,34}Lys²⁷-(GAB-GDod)-GLP-1(7-37); Arg^{26,34}Lys²⁷-(GAB-GDod)-GLP-1(7-38); Ser⁸Asp¹⁷Arg^{26,34}Lys²⁷-(GAB-GDod)-GLP-1(7-38); Ser⁸Asp¹⁷Arg^{26,34}Lys²⁷-(GAB-G
- Arg^{26,34}Lys²³-(GAB-GDod)-GLP-1(7-36);
 Arg^{26,34}Lys²³-(GAB-GDod)-GLP-1(7-36)amide;

 Arg^{26,34}Lys²³-(GAB-GDod)-GLP-1(7-37);
 Arg^{26,34}Lys²³-(GAB-GDod)-GLP-1(7-38);

 5
 Ser⁸Asp¹⁹Arg^{26,34}Lys²³-(GAB-GDod)-GLP-1(7-36); Ser⁸Asp¹⁷Arg^{26,34}Lys²³-(GAB-GDod)-GLP-1(7-36);

 5
 Ser⁸Asp¹⁹Arg^{26,34}Lys²³-(GAB-GDod)-GLP-1(7-36); Ser⁸Asp¹⁷Arg^{26,34}Lys²³-(GAB-GDod)-GLP-1(7-36)amide;

 5
 Ser⁸Asp¹⁹Arg^{26,34}Lys²³-(GAB-GDod)-GLP-1(7-36); Ser⁸Asp¹⁷Arg^{26,34}Lys²³-(GAB-GDod)-GLP-1(7-36)amide;

 6
 Ser⁸Asp¹⁹Arg^{26,34}Lys²³-(GAB-GDod)-GLP-1(7-36)amide;

 7
 Ser⁸Asp¹⁹Arg^{26,34}Lys²³-(GAB-GDod)-GLP-1(7-37);

 8
 Ser⁸Asp¹⁹Arg^{26,34}Lys²³-(GAB-GDod)-GLP-1(7-38);
- Ser^aAsp^{1a}Arg^{26,34}Lys¹⁸-(GAB-GDod)-GLP-1(7-38); Ser^aAsp¹⁷Arg^{26,34}Lys¹⁸-(GAB-GDod)-GLP-1(7-38);

38);

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Thr⁸Asp¹⁹Arg^{26,34}Lys²⁷-(GAB-GDod)-GLP-1(7-37); GDod)-GLP-1(7-36)amide; Thr8Asp18Arg26,34Lys27-(GAB-GDod)-GLP-1(7-38); Thr8Asp17Arg26,34Lys27-(GAB-GDod)-GLP-1(7-38);

Arg²⁶Lys³⁴-(GAB-GTet)-GLP-1(7-36); Arg³⁴Lys²⁶-(GAB-GTet)-GLP-1(7-36); Arg^{26,34}Lys³⁶-(GAB-GTet)-GLP-1(7-36); Arg²⁸Lys³⁴-(GAB-GTet)-GLP-1(7-36)amide; Arg³⁴Lys²⁸-(GAB-GTet)-GLP-5 1(7-36)amide; Arg^{26,34}Lys³⁶-(GAB-GTet)-GLP-1(7-36)amide; Arg²⁶ Lys³⁴-(GAB-GTet)-GLP-1(7-37); Arg³⁴Lys²⁶-(GAB-GTet)-GLP-1(7-37); Arg^{26,34}Lys³⁶-(GAB-GTet)-GLP-1(7-37); Arg²⁶Lys³⁴-(GAB-GTet)-GLP-1(7-38); Arg³⁴Lys²⁶-(GAB-GTet)-GLP-1(7-38) ; Arg^{26,34}Lys³⁸-(GAB-GTet)-GLP-1(7-38); Arg²⁶Lys³⁴-(GAB-GTet)-GLP-1(7-39); Arg³⁴Lys²⁶-(GAB-GTet)-GLP-1(7-39);

- Arg^{26,34}Lys³⁹-(GAB-GTet)-GLP-1(7-39); 10 Gly⁸Arg²⁶Lys³⁴-(GAB-GTet)-GLP-1(7-36); Gly⁸Arg³⁴Lys²⁶-(GAB-GTet)-GLP-1(7-36); Gly8Arg28,34Lys38-(GAB-GTet)-GLP-1(7-36); Gly⁸Arg²⁶Lys³⁴-(GAB-GTet)-GLP-1(7-36)amide; Giv⁸Arg³⁴Lys²⁶-(GAB-GTet)-GLP-1(7-36)amide; Gly⁸Arg^{26,34}Lys³⁶-(GAB-GTet)-GLP-1(7-36)amide; Gly⁸Arg²⁶Lys³⁴-(GAB-GTet)-GLP-1(7-37); Gly⁸Arg³⁴Lys²⁶-(GAB-GTet)-GLP-1(7-37); Gly⁸Arg^{26,34}Lys³⁶-(GAB-GTet)-GLP-1(7-37);
- 15 Gly⁸Arg³⁴Lys²⁶-(GAB-GTet)-GLP-1(7-38) Gly⁸Arg²⁶Lys³⁴-(GAB-GTet)-GLP-1(7-39); Gly⁸Arg^{28,34}Lys³⁹-(GAB-GTet)-GLP-1(7-39); Val⁸Arg²⁶Lys³⁴-(GAB-GTet)-GLP-1(7-36);
- Glv⁸Arg²⁶Lvs³⁴-(GAB-GTet)-GLP-1(7-38); Gly8Arg26.34Lys38-(GAB-GTet)-GLP-1(7-38); Gly⁸Arg³⁴Lys²⁸-(GAB-GTet)-GLP-1(7-39); Val⁸Arg³⁴Lys²⁶-(GAB-GTet)-GLP-1(7-36);
- Val⁸Arg²⁶Lys³⁴-(GAB-GTet)-GLP-1(7-36)amide; Val⁸Arg^{26,34}Lys³⁶-(GAB-GTet)-GLP-1(7-

Val⁸Arg^{26,34}Lys³⁸-(GAB-GTet)-GLP-1(7-38);

Val⁸Arg³⁴Lys²⁶-(GAB-GTet)-GLP-1(7-39);

Ser⁸Arg³⁴Lys²⁸-(GAB-GTet)-GLP-1(7-36);

- Val⁸Arg²⁶Lys³⁴-(GAB-GTet)-GLP-1(7-38);
- Val⁸Arg^{28,34}Lys³⁶-(GAB-GTet)-GLP-1(7-36); Val⁸Arg³⁴Lys²⁸-(GAB-GTet)-GLP-1(7-36)amide; 36)amide; Val[®]Arg²⁶Lys³⁴-(GAB-GTet)-GLP-1(7-37); Val[®]Arg³⁴Lys²⁶-(GAB-GTet)-GLP-1(7-37); Val⁸Arg^{26,34}Lys³⁶-(GAB-GTet)-GLP-1(7-37); Val[®]Arg³⁴Lys²⁶-(GAB-GTet)-GLP-1(7-38)
- Val⁸Arg²⁶Lys³⁴-(GAB-GTet)-GLP-1(7-39); 25 Val⁸Arg^{26,34}Lys³⁹-(GAB-GTet)-GLP-1(7-39); Ser⁸Arg²⁶Lys³⁴-(GAB-GTet)-GLP-1(7-36); Ser⁸Arg^{28,34}Lys³⁶-(GAB-GTet)-GLP-1(7-36); Ser⁸Arg³⁴Lys²⁶-(GAB-GTet)-GLP-1(7-36)amide: 30

Ser⁸Arg²⁶Lys³⁴-(GAB-GTet)-GLP-1(7-39); Ser⁸Arg^{26,34}Lvs³⁹-(GAB-GTet)-GLP-1(7-39);

- Ser⁸Arg^{26,34}Lys³⁶-(GAB-GTet)-GLP-1(7-37); Ser⁸Arg³⁴Lys²⁶-(GAB-GTet)-GLP-1(7-38)
- Ser⁸Arg²⁶Lys³⁴-(GAB-GTet)-GLP-1(7-36)amide; Ser⁸Arg^{26,34}Lys³⁶-(GAB-GTet)-GLP-1(7-36)amide; Ser⁸Arg²⁶Lys³⁴-(GAB-GTet)-GLP-1(7-37); Ser⁸Arg³⁴Lys²⁶-(GAB-GTet)-GLP-1(7-37); Ser^aArg²⁶Lys³⁴-(GAB-GTet)-GLP-1(7-38); Ser⁸Arg^{26,34}Lys³⁸-(GAB-GTet)-GLP-1(7-38); Ser⁸Arg³⁴Lys²⁶-(GAB-GTet)-GLP-1(7-39);

38); Val⁸Asp³⁸Arg^{26,34}Lys³⁹-(GAB-GTet)-GLP-1(7-39);
 Ser⁸Glu³⁵Arg^{26,34}Lys³⁶-(GAB-GTet)-GLP-1(7-36);
 Ser⁸Glu³⁵Arg^{26,34}Lys³⁶-(GAB-GTet)-GLP-1(7-37);
 Ser⁸Glu³⁷Arg^{26,34}Lys³⁸-(GAB-GTet)-GLP-1(7-37);

- 38); Val⁸Glu³⁸Arg^{26,34}Lys³⁹-(GAB-GTet)-GLP-1(7-39);
 Val⁸Asp³⁵Arg^{26,34}Lys³⁶-(GAB-GTet)-GLP-1(7-36); Val⁸Asp³⁵Arg^{26,34}Lys³⁸-(GAB-GTet)-GLP-1(7-37); Val⁸Asp³⁷Arg^{26,34}Lys³⁸-(GAB-GTet)-GLP-1(7-38); Val⁸Asp³⁸Arg^{26,34}Lys³⁹-(GAB-GTet)-GLP-1(7-39); Val⁸Asp³⁵Arg^{26,34}Lys³⁸-(GAB-GTet)-GLP-1(7-36); Val⁸Asp³⁵Arg^{26,34}Lys³⁸-(GAB-GTet)-GLP-1(7-36); Val⁸Asp³⁵Arg^{26,34}Lys³⁸-(GAB-GTet)-GLP-1(7-37); Val⁸Asp³⁵Arg^{26,34}Lys³⁸-(GAB-GTet)-GLP-1(7-36); Val⁸Asp³⁵Arg^{26,34}Lys³⁸-(GAB-GTet)-GLP-1(7-36); Val⁸Asp³⁵Arg^{26,34}Lys³⁸-(GAB-GTet)-GLP-1(7-37); Val⁸Asp³⁵Arg^{26,34}Lys³⁸-(GAB-GTet)-G
- 20 38); Giy⁸Asp³⁸Arg^{26,34}Lys³⁹-(GAB-GTet)-GLP-1(7-39); Val⁸Glu³⁵Arg^{26,34}Lys³⁸-(GAB-GTet)-GLP-1(7-36); Val⁸Glu³⁵Arg^{26,34}Lys³⁸-(GAB-GTet)-GLP-1(7-36)amide; Val⁸Glu³⁸Arg^{26,34}Lys³⁹-(GAB-GTet)-GLP-1(7-37); Val⁸Glu³⁷Arg^{28,34}Lys³⁸-(GAB-GTet)-GLP-1(7-38); Val⁸Glu³⁸Arg^{26,34}Lys³⁹-(GAB-GTet)-GLP-1(7-39); Val⁸Glu³⁵Arg^{26,34}Lys³⁸-(GAB-GTet)-GLP-1(7-36); Val⁸Glu³⁵Arg^{26,34}Lys³⁶-(GAB-GTet)-GLP-1(7-36)amide;
 25 Val⁸Glu³⁶Arg^{26,34}Lys³⁷-(GAB-GTet)-GLP-1(7-37); Val⁸Glu³⁷Arg^{26,34}Lys³⁸-(GAB-GTet)-GLP-1(7-36); Val⁸Glu³⁶Arg^{26,34}Lys³⁸-(GAB-GTet)-GLP-1(7-37); Val⁸Glu³⁶Arg^{26,34}Lys³⁸-(GAB-GTet)-GLP-1(7-36)amide;
- Gly⁸Asp³⁵Arg^{26,34}Lys³⁸-(GAB-GTet)-GLP-1(7-36); Gly⁸Asp³⁵Arg^{26,34}Lys³⁸-(GAB-GTet)-GLP-1(7-36)amide; Gly⁸Asp³⁵Arg^{26,34}Lys³⁷-(GAB-GTet)-GLP-1(7-37); Gly⁸Asp³⁵Arg^{26,34}Lys³⁸-(GAB-GTet)-GLP-1(7-38); Gly⁸Asp³⁵Arg^{26,34}Lys³⁹-(GAB-GTet)-GLP-1(7-39); Gly⁸Asp³⁵Arg^{26,34}Lys³⁸-(GAB-GTet)-GLP-1(7-36); Gly⁸Asp³⁵Arg^{26,34}Lys³⁶-(GAB-GTet)-GLP-1(7-36)amide; Gly⁸Asp³⁵Arg^{26,34}Lys³⁷-(GAB-GTet)-GLP-1(7-37); Gly⁸Asp³⁵Arg^{26,34}Lys³⁸-(GAB-GTet)-GLP-1(7-36)amide; Gly⁸Asp³⁵Arg^{26,34}Lys³⁷-(GAB-GTet)-GLP-1(7-37); Gly⁸Asp³⁵Arg^{26,34}Lys³⁸-(GAB-GTet)-GLP-1(7-37); Gly⁸Asp³⁵Arg^{26,34}Lys³⁸-(GAB-GTet)-GLP-1(7-38); Gly⁸Asp³⁵Arg³⁶-(GAB-GTet)-GLP-1(7-38)amide; Gly⁸Asp³⁵Arg³⁶-(GAB-GTet)-GLP-1(7-38)amide; Gly⁸Asp³⁵-(GAB-GTet)-GLP-1(7-38)amide; Gly⁸Asp³⁵-(GAB-GTet)-GLP-1(7-38)amide; Gly⁸Asp³⁵-(GAB-GTet)-GLP-1(7-38)amide; Gly⁸Asp³⁵-(GAB-GTet)-GLP-
- Gly⁸Glu³⁵Arg^{26,34}Lys³⁶-(GAB-GTet)-GLP-1(7-36); Gly⁸Glu³⁵Arg^{26,34}Lys³⁶-(GAB-GTet)-GLP-1(7-36)amide; Gly⁸Glu³⁶Arg^{26,34}Lys³⁷-(GAB-GTet)-GLP-1(7-37); Gly⁸Glu³⁷Arg^{26,34}Lys³⁸-(GAB-GTet)-GLP-1(7-38); Gly⁸Glu³⁸Arg^{26,34}Lys³⁹-(GAB-GTet)-GLP-1(7-39); Gly⁸Glu³⁵Arg^{26,34}Lys³⁶-(GAB-GTet)-GLP-1(7-36); Gly⁸Glu³⁵Arg^{26,34}Lys³⁶-(GAB-GTet)-GLP-1(7-36)amide; Gly⁸Glu³⁶Arg^{26,34}Lys³⁷-(GAB-GTet)-GLP-1(7-37); Gly⁸Glu³⁷Arg^{26,34}Lys³⁸-(GAB-GTet)-GLP-1(7-38); Gly⁸Glu³⁸Arg^{26,34}Lys³⁹-(GAB-GTet)-GLP-1(7-39);
- Thr⁸Arg^{26,34}Lys³⁶-(GAB-GTet)-GLP-1(7-36);
 Thr⁸Arg²⁶Lys³⁴-(GAB-GTet)-GLP-1(7-36)amide;

 Thr⁸Arg³⁴Lys²⁶-(GAB-GTet)-GLP-1(7-36)amide;
 Thr⁸Arg^{26,34}Lys³⁶-(GAB-GTet)-GLP-1(7-37);

 36)amide;
 Thr⁸Arg^{26,34}Lys³⁶-(GAB-GTet)-GLP-1(7-37);

 5
 Thr⁸Arg^{26,34}Lys³⁶-(GAB-GTet)-GLP-1(7-37);

 5
 Thr⁸Arg^{26,34}Lys³⁶-(GAB-GTet)-GLP-1(7-37);

 7
 Thr⁸Arg^{26,34}Lys³⁶-(GAB-GTet)-GLP-1(7-37);

 7
 Thr⁸Arg^{26,34}Lys³⁶-(GAB-GTet)-GLP-1(7-38);

 7
 Thr⁸Arg^{26,34}Lys²⁶-(GAB-GTet)-GLP-1(7-38);

 7
 Thr⁸Arg^{26,34}Lys²⁶-(GAB-GTet)-GLP-1(7-38);

 7
 Thr⁸Arg^{26,34}Lys²⁶-(GAB-GTet)-GLP-1(7-38);

 7
 Thr⁸Arg^{26,34}Lys²⁶-(GAB-GTet)-GLP-1(7-39);

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Thr³Arg²⁸Lys³⁴-(GAB-GTet)-GLP-1(7-36);

Thr⁸Arg^{26,34}Lys³⁹-(GAB-GTet)-GLP-1(7-39);

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Thr⁸Arg³⁴Lys²⁸-(GAB-GTet)-GLP-1(7-36);

 Arg^{26,34}Lys²³-(GAB-GTet)-GLP-1(7-36);
 Arg^{26,34}Lys²³-(GAB-GTet)-GLP-1(7-36)amide;

 30
 Arg^{26,34}Lys²³-(GAB-GTet)-GLP-1(7-37);
 Arg^{26,34}Lys²³-(GAB-GTet)-GLP-1(7-38);

 Gly⁸Asp¹⁹Arg^{26,34}Lys²³-(GAB-GTet)-GLP-1(7-36);
 Gly⁸Asp¹⁷Arg^{26,34}Lys²³-(GAB-GTet)-GLP-1(7-36);

 Gly⁸Asp¹⁹Arg^{26,34}Lys²³-(GAB-GTet)-GLP-1(7-36);
 Gly⁸Asp¹⁷Arg^{26,34}Lys²³-(GAB-GTet)-GLP-1(7-36);

 GLP-1(7-36)amide;
 Gly⁸Asp¹⁹Arg^{26,34}Lys²³-(GAB-GTet)-GLP-1(7-37);

 GLP-1(7-36)amide;
 Gly⁸Asp¹⁹Arg^{26,34}Lys²³-(GAB-GTet)-GLP-1(7-37);

 Gly⁸Asp¹⁹Arg^{26,34}Lys²³-(GAB-GTet)-GLP-1(7-38);
 Gly⁸Asp¹⁹Arg^{26,34}Lys²³-(GAB-GTet)-GLP-1(7-37);

- Arg^{26,34}Lys¹⁸-(GAB-GTet)-GLP-1(7-37);
 Arg^{26,34}Lys¹⁸-(GAB-GTet)-GLP-1(7-38);

 25
 Gly⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(GAB-GTet)-GLP-1(7-36);
 Gly⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(GAB-GTet)-GLP-1(7-36);

 36);
 Gly⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(GAB-GTet)-GLP-1(7-36);
 Gly⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(GAB-GTet)-GLP-1(7-36);

 GLP-1(7-36)amide;
 Gly⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(GAB-GTet)-GLP-1(7-37);
 Gly⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(GAB-GTet)-GLP-1(7-37);

 GLP-1(7-36)amide;
 Gly⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(GAB-GTet)-GLP-1(7-37);
 Gly⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(GAB-GTet)-GLP-1(7-38);
- Thr⁸Asp³⁶Arg^{28,34}Lys³⁷-(GAB-GTet)-GLP-1(7-37);
 Thr⁸Asp³⁷Arg^{28,34}Lys³⁸-(GAB-GTet)-GLP-1(7-39);

 38);
 Thr⁸Asp³⁸Arg^{28,34}Lys³⁹-(GAB-GTet)-GLP-1(7-39);

 Arg^{28,34}Lys¹⁸-(GAB-GTet)-GLP-1(7-36);
 Arg^{28,34}Lys¹⁸-(GAB-GTet)-GLP-1(7-36)amide;
- 38); Thr⁸Glu³⁸Arg^{28,34}Lys³⁹-(GAB-GTet)-GLP-1(7-39); Thr⁸Asp³⁵Arg^{28,34}Lys³⁶-(GAB-GTet)-GLP-1(7-36); Thr⁸Asp³⁵Arg^{28,34}Lys³⁶-(GAB-GTet)-GLP-1(7-36); Thr⁸Asp³⁶Arg^{28,34}Lys³⁷-(GAB-GTet)-GLP-1(7-37); Thr⁸Asp³⁷Arg^{28,34}Lys³⁸-(GAB-GTet)-GLP-1(7-38); Thr⁸Asp³⁸Arg^{26,34}Lys³⁹-(GAB-GTet)-GLP-1(7-39); Thr⁸Asp³⁵Arg^{26,34}Lys³⁶-(GAB-GTet)-GLP-1(7-36); Thr⁸Asp³⁵Asp³⁶-(GAB-GTet)-GLP-1(7-36); Thr⁸Asp³⁶-(GAB-GTet)-GLP-1(7-36); Thr⁸Asp³⁶-(GAB-GTet)-GLP-1(7-36); Thr⁸Asp³⁶-(GAB-GTet)-GLP-1(7-36); Thr
- 38); Ser⁸Asp³⁸Arg^{26,34}Lys³⁹-(GAB-GTet)-GLP-1(7-39); Thr⁸Glu³⁵Arg^{26,34}Lys³⁶-(GAB-GTet)-GLP-1(7-36); Thr⁸Glu³⁵Arg^{26,34}Lys³⁸-(GAB-GTet)-GLP-1(7-36); Thr⁸Glu³⁶Arg^{26,34}Lys³⁹-(GAB-GTet)-GLP-1(7-37); Thr⁸Glu³⁵Arg^{26,34}Lys³⁸-(GAB-GTet)-GLP-1(7-38); Thr⁸Glu³⁸Arg^{26,34}Lys³⁹-(GAB-GTet)-GLP-1(7-39); Thr⁸Glu³⁵Arg^{26,34}Lys³⁶-(GAB-GTet)-GLP-1(7-36); Thr⁸Glu³⁵Arg^{26,34}Lys³⁶-(GAB-GTet)-GLP-1(7-37); Thr⁸Glu³⁵Arg^{26,34}Lys³⁶-(GAB-GTet)-GLP-1(7-36); Thr⁸Glu³⁵Arg^{26,34}Lys³⁶-(GAB-GTet)-GLP-1(7-36); Thr⁸Glu³⁵Arg^{26,34}Lys³⁶-(GAB-GTet)-GLP-1(7-37); Thr⁸Glu³⁷Arg^{26,34}Lys³⁸-(GAB-GTet)-GLP-1(7-36)
- 58), Ser Giu Aig Lys (GAB-GTet)-GLP-1(7-35),
 5 Ser⁸Asp³⁵Arg^{28,34}Lys³⁶-(GAB-GTet)-GLP-1(7-36); Ser⁸Asp³⁵Arg^{28,34}Lys³⁸-(GAB-GTet)-GLP-1(7-37); Ser⁸Asp³⁷Arg^{28,34}Lys³⁸-(GAB-GTet)-GLP-1(7-38); Ser⁸Asp³⁶Arg^{28,34}Lys³⁹-(GAB-GTet)-GLP-1(7-39); Ser⁸Asp³⁵Arg^{28,34}Lys³⁸-(GAB-GTet)-GLP-1(7-36); Ser⁸Asp³⁵Arg^{28,34}Lys³⁸-(GAB-GTet)-GLP-1(7-36); Ser⁸Asp³⁵Arg^{28,34}Lys³⁸-(GAB-GTet)-GLP-1(7-36); Ser⁸Asp³⁵Arg^{28,34}Lys³⁸-(GAB-GTet)-GLP-1(7-36); Ser⁸Asp³⁵Arg^{28,34}Lys³⁸-(GAB-GTet)-GLP-1(7-36); Ser⁸Asp³⁵Arg^{28,34}Lys³⁸-(GAB-GTet)-GLP-1(7-37); Ser⁸Asp³⁵Arg^{28,34}Lys³⁸-(GAB-GTet)-GLP-1(7-36); Ser⁸Asp³⁵Arg^{28,34}Lys³⁸-(GAB-GTet)-GLP-1(7-37); Ser⁸Asp³⁵Arg^{28,34}Lys³⁸-(Sab³⁵Arg³⁵Arg³⁵-(Sab³⁵Arg³⁵-(Sab³⁵Arg³⁵-(Sab³⁵-(Sab³⁵-Sab³⁵-(Sab³⁵-Sab³⁵-Sab³⁵-(Sab³⁵-Sab³⁵-Sab³⁵-Sab³⁵-Sab³⁵-Sab³⁵-Sab³⁵-Sab³⁵-Sab³⁵-Sab³⁵-Sab³⁵-Sab³⁵-Sab³⁵-Sab³⁵-Sab³⁵-Sab³⁵-

GLP-1(7-38); Ser⁸Glu³⁸Arg^{26,34}Lys³⁹-(GAB-GTet)-GLP-1(7-39); Ser⁸Glu³⁵Arg^{26,34}Lys³⁸-(GAB-GTet)-GLP-1(7-36); Ser⁸Glu³⁵Arg^{26,34}Lys³⁷-(GAB-GTet)-GLP-1(7-37); Ser⁸Glu³⁷Arg^{26,34}Lys³⁸-(GAB-GTet)-GLP-1(7-38); Ser⁸Glu³⁸Arg^{26,34}Lys³⁹-(GAB-GTet)-GLP-1(7-39);

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 30
 (GAB-GTet)-GLP-1(7-38); Ser⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(GAB-GTet)-GLP-1(7-38); Arg^{26,34}Lys²³-(GAB-GTet)-GLP-1(7-36); Arg^{26,34}Lys²³-(GAB-GTet)-GLP-1(7-37); Ser⁸Asp¹⁸Arg^{26,34}Lys²³-(GAB-GTet)-GLP-1(7-36); Ser⁸Asp¹⁷Arg^{26,34}Lys²³-(GAB-GTet)-GLP-1(7-36); Ser⁸Asp¹⁷Arg^{26,34}Lys²³-(GAB-GTet)-

- 25
 Arg^{28,34}Lys¹⁸-(GAB-GTet)-GLP-1(7-36);
 Arg^{26,34}Lys¹⁸-(GAB-GTet)-GLP-1(7-36)amide;

 25
 Arg^{26,34}Lys¹⁸-(GAB-GTet)-GLP-1(7-36);
 Arg^{26,34}Lys¹⁸-(GAB-GTet)-GLP-1(7-36)amide;

 26
 Arg^{26,34}Lys¹⁸-(GAB-GTet)-GLP-1(7-37);
 Arg^{26,34}Lys¹⁸-(GAB-GTet)-GLP-1(7-38);

 26
 Ser⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(GAB-GTet)-GLP-1(7-36);
 Ser⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(GAB-GTet)-GLP-1(7-38);

 26
 Ser⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(GAB-GTet)-GLP-1(7-36);
 Ser⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(GAB-GTet)-GLP-1(7-36);

 26
 Ser⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(GAB-GTet)-GLP-1(7-36)amide;
 Ser⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(GAB-GTet)-GLP-1(7-36);

 27
 Ser⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(GAB-GTet)-GLP-1(7-36)amide;
 Ser⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(GAB-GTet)-GLP-1(7-37);

 28
 Ser⁸Asp¹⁹Arg^{28,34}Lys¹⁸-(GAB-GTet)-GLP-1(7-37);
 Ser⁸Asp¹⁹Arg^{28,34}Lys¹⁸-(GAB-GTet)-GLP-1(7-37);
- Arg^{28,34}Lys²⁷-(GAB-GTet)-GLP-1(7-36);
 Arg^{26,34}Lys²⁷-(GAB-GTet)-GLP-1(7-36)amide;

 20
 Arg^{26,34}Lys²⁷-(GAB-GTet)-GLP-1(7-37);
 Arg^{26,34}Lys²⁷-(GAB-GTet)-GLP-1(7-38);

 Val⁸Asp¹⁹Arg^{26,34}Lys²⁷-(GAB-GTet)-GLP-1(7-36);
 Val⁸Asp¹⁷Arg^{26,34}Lys²⁷-(GAB-GTet)-GLP-1(7-36);

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 Val⁸Asp¹⁹Arg^{26,34}Lys²⁷-(GAB-GTet)-GLP-1(7-36)amide;
 Val⁸Asp¹⁷Arg^{26,34}Lys²⁷-(GAB-GTet)-GLP-1(7-36)amide;

 GLP-1(7-36)amide;
 Val⁸Asp¹⁹Arg^{26,34}Lys²⁷-(GAB-GTet)-GLP-1(7-36)amide;
 Val⁸Asp¹⁷Arg^{26,34}Lys²⁷-(GAB-GTet)-GLP-1(7-37);

 Val⁸Asp¹⁹Arg^{26,34}Lys²⁷-(GAB-GTet)-GLP-1(7-38);
 Val⁸Asp¹⁷Arg^{26,34}Lys²⁷-(GAB-GTet)-GLP-1(7-38);
- Arg^{26,34}Lys²³-(GAB-GTet)-GLP-1(7-36);
 Arg^{26,34}Lys²³-(GAB-GTet)-GLP-1(7-36)amide;

 Arg^{26,34}Lys²³-(GAB-GTet)-GLP-1(7-37);
 Arg^{26,34}Lys²³-(GAB-GTet)-GLP-1(7-38);

 15
 Val⁸Asp¹⁹Arg^{26,34}Lys²³-(GAB-GTet)-GLP-1(7-36);
 Val⁸Asp¹⁷Arg^{26,34}Lys²³-(GAB-GTet)-GLP-1(7-38);

 15
 Val⁸Asp¹⁹Arg^{26,34}Lys²³-(GAB-GTet)-GLP-1(7-36);
 Val⁸Asp¹⁷Arg^{26,34}Lys²³-(GAB-GTet)-GLP-1(7-38);

 15
 Val⁸Asp¹⁹Arg^{26,34}Lys²³-(GAB-GTet)-GLP-1(7-36);
 Val⁸Asp¹⁷Arg^{26,34}Lys²³-(GAB-GTet)-GLP-1(7-36);

 16
 Val⁸Asp¹⁹Arg^{26,34}Lys²³-(GAB-GTet)-GLP-1(7-36);
 Val⁸Asp¹⁷Arg^{26,34}Lys²³-(GAB-GTet)-GLP-1(7-36);

 15
 Val⁸Asp¹⁹Arg^{26,34}Lys²³-(GAB-GTet)-GLP-1(7-36);
 Val⁸Asp¹⁷Arg^{26,34}Lys²³-(GAB-GTet)-GLP-1(7-36);

 16
 Val⁸Asp¹⁹Arg^{26,34}Lys²³-(GAB-GTet)-GLP-1(7-36);
 Val⁸Asp¹⁹Arg^{26,34}Lys²³-(GAB-GTet)-GLP-1(7-37);

 17
 Val⁸Asp¹⁹Arg^{26,34}Lys²³-(GAB-GTet)-GLP-1(7-38);
 Val⁸Asp¹⁷Arg^{26,34}Lys²³-(GAB-GTet)-GLP-1(7-38);
- GLP-1(7-36)amide; Gly^aAsp¹⁵Arg^{26,34}Lys²⁷-(GAB-GTet)-GLP-1(7-37); Gly Asp Arg⁴⁷Lys⁴⁷ Lys⁴⁷ (GAB-GTet)-GLP-1(7-38);
 Arg^{28,34}Lys¹⁸-(GAB-GTet)-GLP-1(7-36); Arg^{28,34}Lys¹⁸-(GAB-GTet)-GLP-1(7-36)amide;
 Arg^{28,34}Lys¹⁸-(GAB-GTet)-GLP-1(7-37); Arg^{28,34}Lys¹⁸-(GAB-GTet)-GLP-1(7-38);
 Val⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(GAB-GTet)-GLP-1(7-36); Val⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(GAB-GTet)-GLP-1(7-36);
 Val⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(GAB-GTet)-GLP-1(7-36)amide; Val⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(GAB-GTet)-GLP-1(7-36)amide; Val⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(GAB-GTet)-GLP-1(7-37); Val⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(GAB-GTet)-GLP-1(7-37); Val⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(GAB-GTet)-GLP-1(7-38);
- Arg^{28,34}Lys²⁷-(GAB-GTet)-GLP-1(7-36);
 Arg^{28,34}Lys²⁷-(GAB-GTet)-GLP-1(7-36)amide;

 Arg^{28,34}Lys²⁷-(GAB-GTet)-GLP-1(7-37);
 Arg^{26,34}Lys²⁷-(GAB-GTet)-GLP-1(7-38);

 Gly⁸Asp¹⁹Arg^{28,34}Lys²⁷-(GAB-GTet)-GLP-1(7-36);
 Gly⁸Asp¹⁷Arg^{28,34}Lys²⁷-(GAB-GTet)-GLP-1(7-38);

 Gly⁸Asp¹⁹Arg^{28,34}Lys²⁷-(GAB-GTet)-GLP-1(7-36);
 Gly⁸Asp¹⁷Arg^{28,34}Lys²⁷-(GAB-GTet)-GLP-1(7-36)amide;

 GLP-1(7-36)amide;
 Gly⁸Asp¹⁹Arg^{28,34}Lys²⁷-(GAB-GTet)-GLP-1(7-37);

GLP-1(7-36)amide; Ser⁸Asp¹⁹Arg^{26,34}Lys²³-(GAB-GTet)-GLP-1(7-37); Ser⁸Asp¹⁹Arg^{26,34}Lys²³-(GAB-GTet)-GLP-1(7-38); Ser⁸Asp¹⁷Arg^{28,34}Lys²²-(GAB-GTet)-GLP-1(7-38);

Arg^{26,34}Lys²⁷-(GAB-GTet)-GLP-1(7-36); Arg^{26,34}Lys²⁷-(GAB-GTet)-GLP-1(7-36)amide; Arg^{26,34}Lys²⁷-(GAB-GTet)-GLP-1(7-37); Arg^{26,34}Lys²⁷-(GAB-GTet)-GLP-1(7-38); Ser⁸Asp¹⁹Arg^{26,34}Lys²⁷-(GAB-GTet)-GLP-1(7-36); Ser⁸Asp¹⁷Arg^{26,34}Lys²⁷-(GAB-GTet)-GLP-1(7-

36); Ser⁸Asp¹⁸Arg^{26,34}Lys²⁷-(GAB-GTet)-GLP-1(7-36)amide; Ser⁸Asp¹⁷Arg^{26,34}Lys²⁷-(GAB-GTet)-GLP-1(7-36)amide; Ser⁸Asp¹⁹Arg^{26,34}Lys²⁷-(GAB-GTet)-GLP-1(7-37); Ser⁸Asp¹⁹Arg^{26,34}Lys²⁷-(GAB-GTet)-GLP-1(7-38); Ser⁸Asp¹⁷Arg^{28,34}Lys²⁷-(GAB-GTet)-GLP-1(7-38);

Arg^{26,34}Lys¹⁸-(GAB-GTet)-GLP-1(7-36); Arg^{26,34}Lys¹⁸-(GAB-GTet)-GLP-1(7-36)amide; Arg^{26,34}Lys¹⁸-(GAB-GTet)-GLP-1(7-37); Arg^{26,34}Lys¹⁸-(GAB-GTet)-GLP-1(7-38); 10 Thr⁸Asp¹⁹Arg^{28,34}Lys¹⁸-(GAB-GTet)-GLP-1(7-36); Thr⁸Asp¹⁷Arg^{28,34}Lys¹⁸-(GAB-GTet)-GLP-1(7-36): Thr⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(GAB-GTet)-GLP-1(7-36)amide; Thr⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(GAB-GTet)-GLP-1(7-36)amide; Thr⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(GAB-GTet)-GLP-1(7-37); Thr⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(GAB-GTet)-GLP-1(7-38); Thr⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(GAB-GTet)-GLP-1(7-38);

Arg^{26,34}Lys²³-(GAB-GTet)-GLP-1(7-36)amide; Arg^{26,34}Lys²³-(GAB-GTet)-GLP-1(7-36); 15 Arg^{28,34}Lys²³-(GAB-GTet)-GLP-1(7-37); Arg^{28,34}Lys²³-(GAB-GTet)-GLP-1(7-38); Thr⁸Asp¹⁹Arg^{26,34}Lys²³-(GAB-GTet)-GLP-1(7-36); Thr⁸Asp¹⁷Arg^{26,34}Lys²³-(GAB-GTet)-GLP-1(7-36); Thr⁸Asp¹⁹Arg^{26,34}Lys²³-(GAB-GTet)-GLP-1(7-36)amide; Thr⁸Asp¹⁷Arg^{26,34}Lys²³-(GAB-GTet)-GLP-1(7-36)amide; Thr^aAsp¹⁹Arg^{26,34}Lys²³-(GAB-GTet)-GLP-1(7-37); Thr^aAsp¹⁹Arg^{26,34}Lys²³-(GAB-GTet)-GLP-1(7-38); Thr⁸Asp¹⁷Arg^{26,34}Lys²³-(GAB-GTet)-GLP-1(7-38);

Arg28,34Lys27-(GAB-GTet)-GLP-1(7-36)amide; Arg^{26,34}Lys²⁷-(GAB-GTet)-GLP-1(7-36); Arg^{26,34}Lys²⁷-(GAB-GTet)-GLP-1(7-37); Arg^{26,34}Lys²⁷-(GAB-GTet)-GLP-1(7-38); Thr⁸Asp¹⁹Arg^{28,34}Lys²⁷-(GAB-GTet)-GLP-1(7-36); Thr⁸Asp¹⁷Arg^{28,34}Lys²⁷-(GAB-GTet)-GLP-1(7-36); Thr⁸Asp¹⁹Arg^{26,34}Lys²⁷-(GAB-GTet)-GLP-1(7-36)amide; Thr⁸Asp¹⁷Arg^{26,34}Lys²⁷-(GAB-GTet)-GLP-1(7-36)amide; Thr⁸Asp¹⁹Arg^{28,34}Lys²⁷-(GAB-GTet)-GLP-1(7-37); Thr⁸Asp¹⁹Arg^{28,34}Lys²⁷-(GAB-GTet)-GLP-1(7-38); Thr⁴Asp¹⁷Arg^{26,34}Lys²⁷-(GAB-GTet)-GLP-1(7-38); Arg³⁴Lys²⁶-(GAB-GHex)-GLP-1(7-36); Arg^{26,34}Lys³⁶-Arg²⁶Lys³⁴-(GAB-GHex)-GLP-1(7-36);

Arg²⁶Lys³⁴-(GAB-GHex)-GLP-1(7-36)amide; Arg³⁴Lys²⁶-(GAB-(GAB-GHex)-GLP-1(7-36); GHex)-GLP-1(7-36)amide; Arg^{26,34}Lys³⁶-(GAB-GHex)-GLP-1(7-36)amide; Arg²⁶ Lys³⁴-(GAB-GHex)-GLP-1(7-37); Arg³⁴Lys²⁶-(GAB-GHex)-GLP-1(7-37); Arg^{28,34}Lys³⁶-(GAB-GHex)-GLP-1(7-30 37); Arg²⁶Lys³⁴-(GAB-GHex)-GLP-1(7-38); Arg³⁴Lys²⁶-(GAB-GHex)-GLP-1(7-38); Arg^{26,34}Lys³⁸-(GAB-GHex)-GLP-1(7-38); Arg²⁶Lys³⁴-(GAB-GHex)-GLP-1(7-39); Arg³⁴Lys²⁶-(GAB-GHex)-GLP-1(7-39); Arg^{26,34}Lys³⁹-(GAB-GHex)-GLP-1(7-39);

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 36)amide; Thr⁸Arg²⁶Lys³⁴-(GAB-GHex)-GLP-1(7-37); Thr⁸Arg³⁴Lys²⁸-(GAB-GHex)-GLP-1(7-37); Thr⁸Arg^{26,34}Lys³⁸-(GAB-GHex)-GLP-1(7-38);

 30
 Thr⁸Arg³⁴Lys²⁸-(GAB-GHex)-GLP-1(7-38) ; Thr⁸Arg^{26,34}Lys³⁸-(GAB-GHex)-GLP-1(7-38); Thr⁸Arg^{26,34}Lys³⁴-(GAB-GHex)-GLP-1(7-39); Thr⁸Arg^{26,34}Lys³⁹-(GAB-GHex)-GLP-1(7-39); Thr⁸Arg^{28,34}Lys³⁹-(GAB-GHex)-GLP-1(7-39); Gly⁸Glu³⁵Arg^{28,34}Lys³⁸-(GAB-GHex)-GLP-1(7-36); Gly⁸Glu³⁵Arg^{28,34}Lys³⁸-(GAB-GHex)-GLP-1(7-36); Gly⁸Glu³⁵Arg^{28,34}Lys³⁸-(GAB-GHex)-GLP-1(7-36); Gly⁸Glu³⁷Arg^{26,34}Lys³⁸-(GAB-GHex)-GLP-1(7-36); Gly⁸Glu³⁷Arg³⁸-(GAB-GHex)-GLP-1(7-36); Gly⁸Glu³⁷Arg³⁸-(GAB-GHex)-GLP-1(7-36); Gl

 Ser⁸Arg^{26,34}Lys³⁹-(GAB-GHex)-GLP-1(7-39);

 25
 Thr⁸Arg²⁶Lys³⁴-(GAB-GHex)-GLP-1(7-36);

 Thr⁸Arg^{26,34}Lys³⁶-(GAB-GHex)-GLP-1(7-36);
 Thr⁸Arg²⁶Lys³⁴-(GAB-GHex)-GLP-1(7-36);

 Thr⁸Arg³⁴Lys²⁶-(GAB-GHex)-GLP-1(7-36);
 Thr⁸Arg^{26,34}Lys³⁶-(GAB-GHex)-GLP-1(7-36)amide;

 Thr⁸Arg³⁴Lys²⁶-(GAB-GHex)-GLP-1(7-36)amide;
 Thr⁸Arg^{26,34}Lys³⁶-(GAB-GHex)-GLP-1(7-36)amide;

 36)amide;
 Thr⁸Arg²⁶Lys³⁴-(GAB-GHex)-GLP-1(7-37);

 Thr⁸Arg^{26,34}Lys³⁶-(GAB-GHex)-GLP-1(7-37);
 Thr⁸Arg²⁶Lys³⁴-(GAB-GHex)-GLP-1(7-37);

 Thr⁸Arg^{26,34}Lys³⁶-(GAB-GHex)-GLP-1(7-37);
 Thr⁸Arg²⁶Lys³⁴-(GAB-GHex)-GLP-1(7-38);

- Ser⁸Arg²⁶Lys³⁴-(GAB-GHex)-GLP-1(7-36);
 Ser⁸Arg³⁴Lys²⁸-(GAB-GHex)-GLP-1(7-36);

 Ser⁸Arg^{26,34}Lys²⁶-(GAB-GHex)-GLP-1(7-36);
 Ser⁸Arg^{26,34}Lys³⁶-(GAB-GHex)-GLP-1(7-36)amide;

 Ser⁸Arg³⁴Lys²⁶-(GAB-GHex)-GLP-1(7-36)amide;
 Ser⁸Arg^{26,34}Lys³⁶-(GAB-GHex)-GLP-1(7-36)amide;

 Ser⁸Arg^{26,34}Lys²⁶-(GAB-GHex)-GLP-1(7-36)amide;
 Ser⁸Arg^{26,34}Lys³⁶-(GAB-GHex)-GLP-1(7-37);

 Ser⁸Arg^{26,34}Lys³⁶-(GAB-GHex)-GLP-1(7-37);
 Ser⁸Arg^{26,34}Lys³⁶-(GAB-GHex)-GLP-1(7-38);

 Ser⁸Arg²⁶Lys³⁴-(GAB-GHex)-GLP-1(7-38);
 Ser⁸Arg^{26,34}Lys³⁸-(GAB-GHex)-GLP-1(7-38);

 Ser⁸Arg²⁶Lys³⁴-(GAB-GHex)-GLP-1(7-39);
 Ser⁸Arg^{26,34}Lys³⁹-(GAB-GHex)-GLP-1(7-39);
- Val⁸Arg^{26,34}Lys³⁶-(GAB-GHex)-GLP-1(7-36); Val⁸Arg²⁶Lys³⁴-(GAB-GHex)-GLP-1(7-36)amide; Val⁸Arg^{26,34}Lys²⁶-(GAB-GHex)-GLP-1(7-36)amide; Val⁸Arg^{26,34}Lys²⁶-(GAB-GHex)-GLP-1(7-37); Val⁸Arg^{26,34}Lys³⁶-(GAB-GHex)-GLP-1(7-37); Val⁸Arg^{26,34}Lys³⁶-(GAB-GHex)-GLP-1(7-37); Val⁸Arg^{26,34}Lys³⁶-(GAB-GHex)-GLP-1(7-37); Val⁸Arg^{26,34}Lys³⁶-(GAB-GHex)-GLP-1(7-38); Val⁸Arg³⁴Lys²⁶-(GAB-GHex)-GLP-1(7-38); Val⁸Arg³⁴Lys²⁶-(GAB-GHex)-GLP-1(7-38); Val⁸Arg^{26,34}Lys³⁴-(GAB-GHex)-GLP-1(7-38); Val⁸Arg^{26,34}Lys³⁴-(GAB-GHex)-GLP-1(7-38); Val⁸Arg^{26,34}Lys³⁴-(GAB-GHex)-GLP-1(7-39); Val⁸Arg^{26,34}Lys³⁹-(GAB-GHex)-GLP-1(7-39); Val⁸Arg^{26,34}
- 5
 Gly⁸Arg^{26,34}Lys³⁶-(GAB-GHex)-GLP-1(7-37);
 Gly⁸Arg^{26,34}Lys³⁴-(GAB-GHex)-GLP-1(7-38);

 6
 Gly⁸Arg^{26,34}Lys²⁶-(GAB-GHex)-GLP-1(7-38);
 Gly⁸Arg^{26,34}Lys³⁸-(GAB-GHex)-GLP-1(7-38);

 6
 Gly⁸Arg^{26,34}Lys³⁹-(GAB-GHex)-GLP-1(7-39);
 Gly⁸Arg^{26,34}Lys³⁹-(GAB-GHex)-GLP-1(7-39);

 6
 Gly⁸Arg^{26,34}Lys³⁹-(GAB-GHex)-GLP-1(7-39);
 Gly⁸Arg²⁶-(GAB-GHex)-GLP-1(7-39);

 7
 Val⁸Arg^{26,34}Lys³⁹-(GAB-GHex)-GLP-1(7-36);
 Val⁸Arg²⁶-(GAB-GHex)-GLP-1(7-36);

 70
 Val⁸Arg^{26,34}Lys³⁹-(GAB-GHex)-GLP-1(7-36);
 Val⁸Arg²⁶Lys³⁴-(GAB-GHex)-GLP-1(7-36)amide;
- Gly⁸Arg²⁶Lys³⁴-(GAB-GHex)-GLP-1(7-36);
 Gly⁸Arg²⁶Lys²⁸-(GAB-GHex)-GLP-1(7-36);

 Gly⁸Arg²⁶Lys³⁴-(GAB-GHex)-GLP-1(7-36);
 Gly⁸Arg²⁶Lys³⁴-(GAB-GHex)-GLP-1(7-36)amide;

 Gly⁸Arg³⁴Lys²⁸-(GAB-GHex)-GLP-1(7-36);
 Gly⁸Arg²⁶Lys³⁴-(GAB-GHex)-GLP-1(7-36)amide;

 Gly⁸Arg³⁴Lys²⁸-(GAB-GHex)-GLP-1(7-36)amide;
 Gly⁸Arg²⁶Lys³⁴-(GAB-GHex)-GLP-1(7-36)amide;

 36)amide;
 Gly⁸Arg²⁶Lys³⁴-(GAB-GHex)-GLP-1(7-37);

 Gly⁸Arg²⁶Lys³⁴-(GAB-GHex)-GLP-1(7-37);
 Gly⁸Arg³⁴Lys²⁸-(GAB-GHex)-GLP-1(7-37);

Ser⁸Asp³⁵Arg^{28,34}Lys³⁶-(GAB-GHex)-GLP-1(7-36); Ser⁸Asp³⁵Arg^{28,34}Lys³⁶-(GAB-GHex)-GLP-1(7-Ser⁸Asp³⁶Arg^{26,34}Lys³⁷-(GAB-GHex)-GLP-1(7-37); Ser⁸Asp³⁷Arg^{26,34}Lys³⁸-(GAB-30 36)amide: GHex)-GLP-1(7-38); Ser⁸Asp³⁸Arg^{26,34}Lys³⁹-(GAB-GHex)-GLP-1(7-39); Ser⁸Asp³⁵Arg^{26,34}Lys³⁶-Ser⁸Asp³⁵Arg^{28,34}Lys³⁶-(GAB-GHex)-GLP-1(7-36)amide; (GAB-GHex)-GLP-1(7-36); Ser⁸Asp³⁶Arg^{26,34}Lys³⁷-(GAB-GHex)-GLP-1(7-37); Ser⁸Asp³⁷Arg^{26,34}Lys³⁸-(GAB-GHex)-GLP-1(7-38); Ser⁸Asp³⁸Arg^{26,34}Lys³⁹-(GAB-GHex)-GLP-1(7-39);

Ser⁸Glu³⁵Arg^{26,34}Lys³⁶-(GAB-GHex)-GLP-1(7-36); Ser⁸Glu³⁵Arg^{26,34}Lys³⁸-(GAB-GHex)-GLP-1(7-Ser^aGlu³⁷Arg^{26,34}Lys³⁸-(GAB-36)amide: Ser⁸Glu³⁶Arg^{26,34}Lys³⁷-(GAB-GHex)-GLP-1(7-37); GHex)-GLP-1(7-38); Ser^aGlu³⁸Arg^{28,34}Lys³⁹-(GAB-GHex)-GLP-1(7-39); Ser^aGlu³⁵Arg^{28,34}Lys³⁶-25 Ser⁸Glu³⁵Arg^{26,34}Lys³⁶-(GAB-GHex)-GLP-1(7-36)amide; (GAB-GHex)-GLP-1(7-36); Ser⁸Glu³⁶Arg^{26,34}Lys³⁷-(GAB-GHex)-GLP-1(7-37); Ser⁸Glu³⁷Arg^{26,34}Lys³⁸-(GAB-GHex)-GLP-1(7-38); Ser⁸Glu³⁸Arg^{28,34}Lys³⁹-(GAB-GHex)-GLP-1(7-39);

38); Val⁸Asp³⁸Arg^{26,34}Lys³⁹-(GAB-GHex)-GLP-1(7-39);

- 38); Val⁸Glu³⁸Arg^{26,34}Lys³⁹-(GAB-GHex)-GLP-1(7-39); Val⁸Asp³⁵Arg^{26,34}Lys³⁶-(GAB-GHex)-GLP-1(7-36); Val⁸Asp³⁵Arg^{26,34}Lys³⁶-(GAB-GHex)-GLP-1(7-Val[®]Asp³⁶Arg^{26,34}Lys³⁷-(GAB-GHex)-GLP-1(7-37); Val[®]Asp³⁷Arg^{26,34}Lys³⁸-(GAB-36)amide: GHex)-GLP-1(7-38); Val⁸Asp³⁸Arg^{26,34}Lys³⁹-(GAB-GHex)-GLP-1(7-39); Val⁸Asp³⁵Arg^{26,34}Lys³⁶-(GAB-GHex)-GLP-1(7-36); Val⁸Asp³⁵Arg^{26,34}Lys³⁶-(GAB-GHex)-GLP-1(7-36)amide; 20 Val⁸Asp³⁶Arg^{26,34}Lys³⁷-(GAB-GHex)-GLP-1(7-37); Val⁸Asp³⁷Arg^{26,34}Lys³⁸-(GAB-GHex)-GLP-1(7-
- 38); Gly⁸Asp³⁸Arg^{25,34}Lys³⁹-(GAB-GHex)-GLP-1(7-39); Val⁸Glu³⁵Arg^{28,34}Lys³⁶-(GAB-GHex)-GLP-1(7-36); Val⁸Glu³⁵Arg^{28,34}Lys³⁶-(GAB-GHex)-GLP-1(7-36)amide; Val[®]Glu³⁶Arg^{26,34}Lys³⁷-(GAB-GHex)-GLP-1(7-37); Val[®]Glu³⁷Arg^{26,34}Lys³⁸-(GAB-GHex)-GLP-1(7-38); Val⁸Giu³⁸Arg^{28,34}Lys³⁹-(GAB-GHex)-GLP-1(7-39); Val⁸Giu³⁵Arg^{28,34}Lys³⁶-(GAB-Val⁸Glu³⁵Arg^{26,34}Lys³⁶-(GAB-GHex)-GLP-1(7-36)amide; GHex)-GLP-1(7-36); Val⁸Glu³⁶Arg^{28,34}Lys³⁷-(GAB-GHex)-GLP-1(7-37); Val⁸Glu³⁷Arg^{28,34}Lys³⁸-(GAB-GHex)-GLP-1(7-15
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- Glv⁸Asp³⁵Arg^{26,34}Lys³⁶-(GAB-GHex)-GLP-1(7-36); Glv⁸Asp³⁵Arg^{26,34}Lys³⁶-(GAB-GHex)-GLP-1(7-Gly⁸Asp³⁶Arg^{26,34}Lys³⁷-(GAB-GHex)-GLP-1(7-37); Gly⁸Asp³⁷Arg^{26,34}Lys³⁸-(GAB-36)amide; GHex)-GLP-1(7-38); Gly⁸Asp³⁸Arg^{28,34}Lys³⁹-(GAB-GHex)-GLP-1(7-39); Gly⁸Asp³⁵Arg^{28,34}Lys³⁶-Gly⁸Asp³⁵Arg^{26,34}Lys³⁶-(GAB-GHex)-GLP-1(7-36)amide; (GAB-GHex)-GLP-1(7-36); Gly⁸Asp³⁶Arg^{28,34}Lys³⁷-(GAB-GHex)-GLP-1(7-37); Gly⁸Asp³⁷Arg^{28,34}Lys³⁸-(GAB-GHex)-GLP-1(7-
- GLP-1(7-38); Gly⁸Glu³⁸Arg^{26,34}Lys³⁹-(GAB-GHex)-GLP-1(7-39); Gly⁸Glu³⁵Arg^{26,34}Lys³⁸-(GAB-Giv⁸Glu³⁵Arg^{26,34}Lys³⁶-(GAB-GHex)-GLP-1(7-36)amide; GHex)-GLP-1(7-36); Gly⁸Glu³⁶Arg^{28,34}Lys³⁷-(GAB-GHex)-GLP-1(7-37); Gly⁸Glu³⁷Arg^{28,34}Lys³⁸-(GAB-GHex)-GLP-1(7-38); Gly^aGlu³⁸Arg^{26,34}Lys³⁹-(GAB-GHex)-GLP-1(7-39);

Gly⁸Asp¹⁷Arg^{28,34}Lys²³-(GAB-Gly⁸Asp¹⁹Arg^{26,34}Lys²³-(GAB-GHex)-GLP-1(7-36)amide; 36); Gly⁸Asp¹⁹Arg^{26,34}Lys²³-(GAB-GHex)-GLP-1(7-37); GHex)-GLP-1(7-36)amide; Gly⁸Asp¹⁹Arg^{26,34}Lys²³-(GAB-GHex)-GLP-1(7-38); Gly⁸Asp¹⁷Arg^{26,34}Lys²³-(GAB-GHex)-GLP-1(7-38); Arg^{26,34}Lys²⁷-(GAB-GHex)-GLP-1(7-36)amide; Arg^{26,34}Lys²⁷-(GAB-GHex)-GLP-1(7-36); Arg^{26,34}Lys²⁷-(GAB-GHex)-GLP-1(7-38); Arg^{26,34}Lys²⁷-(GAB-GHex)-GLP-1(7-37); Gly⁸Asp¹⁹Arg^{26,34}Lys²⁷-(GAB-GHex)-GLP-1(7-36); Gly⁸Asp¹⁷Arg^{26,34}Lys²⁷-(GAB-GHex)-GLP-1(7-Gly⁸Asp¹⁹Arg^{26,34}Lys²⁷-(GAB-GHex)-GLP-1(7-36)amide; Gly⁸Asp¹⁷Arg^{28,34}Lys²⁷-(GAB-36); 30

Gly⁸Asp¹⁹Arg^{26,34}Lys²⁷-(GAB-GHex)-GLP-1(7-38); Gly⁸Asp¹⁷Arg^{26,34}Lys²⁷-(GAB-GHex)-GLP-1(7-

Gly⁸Asp¹⁹Arg^{26,34}Lys²⁷-(GAB-GHex)-GLP-1(7-37);

- Arg^{26,34}Lys²³-(GAB-GHex)-GLP-1(7-36); Arg^{26,34}Lys²³-(GAB-GHex)-GLP-1(7-36)amide; Arg^{26,34}Lys²³-(GAB-GHex)-GLP-1(7-37); Arg^{26,34}Lys²³-(GAB-GHex)-GLP-1(7-38); Gly⁸Asp¹⁹Arg^{26,34}Lys²³-(GAB-GHex)-GLP-1(7-36); Gly⁸Asp¹⁷Arg^{26,34}Lys²³-(GAB-GHex)-GLP-1(7-36); Gly⁸Asp¹⁹Arg^{26,34}Lys²³-(GAB-GHex)-GLP-1(7-36)amide; Gly⁸Asp¹⁷Arg^{26,34}Lys²³-(GAB-GHex)-GLP-1(7-37); Gly⁸Asp¹⁹Arg^{26,34}Lys²³-(GAB-GHex)-GLP-1(7-38); Gly⁸Asp¹⁹Arg^{26,34}Lys²³-(GAB-GHex)-GLP-1(7-37); Gly⁸Asp¹⁹Arg^{26,34}Lys²³-(GAB-GHex)-GLP-1(7-38); Gly⁸Asp¹⁹Arg^{26,34}Lys²³-(GAB-GHex
- Arg^{26,34}Lys¹⁸-(GAB-GHex)-GLP-1(7-36);
 Arg^{26,34}Lys¹⁸-(GAB-GHex)-GLP-1(7-36)amide;

 Arg^{26,34}Lys¹⁸-(GAB-GHex)-GLP-1(7-37);
 Arg^{26,34}Lys¹⁸-(GAB-GHex)-GLP-1(7-38);

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 Gly⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(GAB-GHex)-GLP-1(7-36);
 Gly⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(GAB-GHex)-GLP-1(7-38);

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 Gly⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(GAB-GHex)-GLP-1(7-36);
 Gly⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(GAB-GHex)-GLP-1(7-36);

 36);
 Gly⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(GAB-GHex)-GLP-1(7-36)amide;
 Gly⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(GAB-GHex)-GLP-1(7-37);

 Gly⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(GAB-GHex)-GLP-1(7-38);
 Gly⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(GAB-GHex)-GLP-1(7-37);

 Gly⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(GAB-GHex)-GLP-1(7-38);
 Gly⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(GAB-GHex)-GLP-1(7-38);

 38);
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 S
- 38); Thr³Glu³⁸Arg^{26,34}Lys³⁹-(GAB-GHex)-GLP-1(7-39); Thr³Asp³⁵Arg^{26,34}Lys³⁶-(GAB-GHex)-GLP-1(7-36); Thr³Asp³⁵Arg^{26,34}Lys³⁶-(GAB-GHex)-GLP-1(7-36); Thr³Asp³⁵Arg^{26,34}Lys³⁸-(GAB-GHex)-GLP-1(7-39); Thr³Asp³⁵Arg^{26,34}Lys³⁶-(GAB-GHex)-GLP-1(7-39); Thr³Asp³⁵Arg^{26,34}Lys³⁶-(GAB-GHex)-GLP-1(7-36); Thr³Asp³⁵Arg^{26,34}Lys³⁶-(GAB-GHex)-GLP-1(7-36); Thr³Asp³⁵Arg^{26,34}Lys³⁶-(GAB-GHex)-GLP-1(7-36)amide; Thr³Asp³⁶Arg^{26,34}Lys³⁷-(GAB-GHex)-GLP-1(7-37); Thr³Asp³⁵Arg^{26,34}Lys³⁸-(GAB-GHex)-GLP-1(7-36)amide; Thr³Asp³⁶Arg^{26,34}Lys³⁷-(GAB-GHex)-GLP-1(7-37); Thr³Asp³⁵Arg^{26,34}Lys³⁸-(GAB-GHex)-GLP-1(7-36)amide; Thr³Asp³⁶Arg^{26,34}Lys³⁹-(GAB-GHex)-GLP-1(7-37); Thr³Asp³⁵Arg^{26,34}Lys³⁸-(GAB-GHex)-GLP-1(7-38); Thr³Asp³⁶Arg^{26,34}Lys³⁹-(GAB-GHex)-GLP-1(7-39);
- Thr^aGlu³⁵Arg^{28,34}Lys³⁶-(GAB-GHex)-GLP-1(7-36); Thr^aGlu³⁵Arg^{28,34}Lys³⁸-(GAB-GHex)-GLP-1(7-36)amide; Thr^aGlu³⁶Arg^{28,34}Lys³⁷-(GAB-GHex)-GLP-1(7-37); Thr^aGlu³⁷Arg^{28,34}Lys³⁸-(GAB-GHex)-GLP-1(7-38); Thr^aGlu³⁸Arg^{28,34}Lys³⁹-(GAB-GHex)-GLP-1(7-39); Thr^aGlu³⁵Arg^{28,34}Lys³⁸-(GAB-GHex)-GLP-1(7-36); Thr^aGlu³⁵Arg^{28,34}Lys³⁹-(GAB-GHex)-GLP-1(7-37); Thr^aGlu³⁷Arg^{28,34}Lys³⁸-(GAB-GHex)-GLP-1(7-5 Thr^aGlu³⁶Arg^{28,34}Lys³⁷-(GAB-GHex)-GLP-1(7-37); Thr^aGlu³⁷Arg^{28,34}Lys³⁸-(GAB-GHex)-GLP-1(7-

GHex)-GLP-1(7-36)amide;

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Arg^{26,34}Lys²³-(GAB-GHex)-GLP-1(7-36)amide; Arg^{26,34}Lys²³-(GAB-GHex)-GLP-1(7-36); Arg^{26,34}Lys²³-(GAB-GHex)-GLP-1(7-38); Arg^{26,34}Lys²³-(GAB-GHex)-GLP-1(7-37); Ser⁸Asp¹⁹Arg^{26,34}Lys²²-(GAB-GHex)-GLP-1(7-36); Ser⁸Asp¹⁷Arg^{26,34}Lys²²-(GAB-GHex)-GLP-1(7-Ser⁸Asp¹⁷Arg^{26,34}Lys²³-(GAB-Ser⁸Asp¹⁹Arg^{28,34}Lys²³-(GAB-GHex)-GLP-1(7-36)amide; 36); Ser⁸Asp¹⁹Arg^{26,34}Lys²³-(GAB-GHex)-GLP-1(7-37); GHex)-GLP-1(7-36)amide;

Arg^{26,34}Lys¹⁸-(GAB-GHex)-GLP-1(7-37); Arg^{26,34}Lys¹⁸-(GAB-GHex)-GLP-1(7-38); Ser⁸Asp¹⁹Arg^{28,34}Lys¹⁸-(GAB-GHex)-GLP-1(7-36); Ser⁸Asp¹⁷Arg^{28,34}Lys¹⁸-(GAB-GHex)-GLP-1(7-Ser⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(GAB-Ser⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(GAB-GHex)-GLP-1(7-36)amide; 25 36); Ser⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(GAB-GHex)-GLP-1(7-37); GHex)-GLP-1(7-36)amide; Ser⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(GAB-GHex)-GLP-1(7-38); Ser⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(GAB-GHex)-GLP-1(7-38);

Arg^{26,34}Lys¹⁸-(GAB-GHex)-GLP-1(7-36)amide;

Arg^{26,34}Lys²⁷-(GAB-GHex)-GLP-1(7-38); Arg^{26,34}Lys²⁷-(GAB-GHex)-GLP-1(7-37); Val⁸Asp¹⁸Arg^{26,34}Lys²⁷-(GAB-GHex)-GLP-1(7-36); Val⁸Asp¹⁷Arg^{26,34}Lys²⁷-(GAB-GHex)-GLP-1(7-Val⁸Asp¹⁷Arg^{26,34}Lys²⁷-(GAB-Val⁸Asp¹⁹Arg^{26,34}Lys²⁷-(GAB-GHex)-GLP-1(7-36)amide; 36); Val⁸Asp¹⁹Arg^{26,34}Lys²⁷-(GAB-GHex)-GLP-1(7-37); GHex)-GLP-1(7-36)amide; Val⁸Asp¹⁹Arg^{26,34}Lys²⁷-(GAB-GHex)-GLP-1(7-38); Val⁸Asp¹⁷Arg^{26,34}Lys²⁷-(GAB-GHex)-GLP-1(7-20 38);

Arg^{26,34}Lys¹⁸-(GAB-GHex)-GLP-1(7-36):

- Arg^{26,34}Lys²³-(GAB-GHex)-GLP-1(7-37); Arg^{26,34}Lys²³-(GAB-GHex)-GLP-1(7-38); Val[®]Asp¹⁹Arg^{26,34}Lys²²-(GAB-GHex)-GLP-1(7-36); Val[®]Asp¹⁷Arg^{26,34}Lys²²-(GAB-GHex)-GLP-1(7-Val⁸Asp¹⁷Arg^{26,34}Lys²³-(GAB-Val⁸Asp¹⁹Arg^{26,34}Lys²³-(GAB-GHex)-GLP-1(7-36)amide; 36): Val⁸Asp¹⁹Arg^{26,34}Lys²³-(GAB-GHex)-GLP-1(7-37); GHex)-GLP-1(7-36)amide; Val⁸Asp¹⁹Arg^{26,34}Lys²³-(GAB-GHex)-GLP-1(7-38); Val⁸Asp¹⁷Arg^{26,34}Lys²³-(GAB-GHex)-GLP-1(7-38); Arg^{26,34}Lys²⁷-(GAB-GHex)-GLP-1(7-36)amide; Arg^{26,34}Lys²⁷-(GAB-GHex)-GLP-1(7-36);
- Val⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(GAB-Val⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(GAB-GHex)-GLP-1(7-36)amide; 36); Val⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(GAB-GHex)-GLP-1(7-37); GHex)-GLP-1(7-36)amide; Val⁸Asp¹⁸Arg^{26,34}Lys¹⁸-(GAB-GHex)-GLP-1(7-38); Val⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(GAB-GHex)-GLP-1(7-38);

Arg^{26,34}Lys²³-(GAB-GHex)-GLP-1(7-36); Arg^{26,34}Lys²³-(GAB-GHex)-GLP-1(7-36)amide;

Arg^{28,34}Lys¹⁸-(GAB-GHex)-GLP-1(7-36)amide; Arg^{26,34}Lys¹⁸-(GAB-GHex)-GLP-1(7-36); Arg^{26,34}Lys¹⁸-(GAB-GHex)-GLP-1(7-38); Arg^{28,34}Lys¹⁸-(GAB-GHex)-GLP-1(7-37); Val⁸Asp¹⁸Arg^{26,34}Lys¹⁸-(GAB-GHex)-GLP-1(7-36); Val⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(GAB-GHex)-GLP-1(7-

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38); Arg²⁶Lys³⁴-(GAB-GOct)-GLP-1(7-36); Arg³⁴Lys²⁶-(GAB-GOct)-GLP-1(7-36); Arg^{26,34}Lys³⁶-(GAB-GOct)-GLP-1(7-36); Arg²⁶Lys³⁴-(GAB-GOct)-GLP-1(7-36)amide; Arg³⁴Lys²⁸-(GAB-GOct)-GLP-1(7-36)amide; Arg^{28,34}Lys³⁶-(GAB-GOct)-GLP-1(7-36)amide; Arg²⁶ Lys³⁴-(GAB-GOct)-GLP-1(7-37); Arg³⁴Lys²⁶-(GAB-GOct)-GLP-1(7-37); Arg^{26,34}Lys³⁶-(GAB-GOct)-GLP-1(7-37); Arg²⁶Lys³⁴-

- Arg^{26,34}Lys²⁷-(GAB-GHex)-GLP-1(7-36)amide; Arg^{26,34}Lys²⁷-(GAB-GHex)-GLP-1(7-36); Arg^{26,34}Lys²⁷-(GAB-GHex)-GLP-1(7-38); Arg^{26,34}Lys²⁷-(GAB-GHex)-GLP-1(7-37); 25 Thr^aAsp¹⁹Arg^{28,34}Lys²⁷-(GAB-GHex)-GLP-1(7-36); Thr^aAsp¹⁷Arg^{26,34}Lys²⁷-(GAB-GHex)-GLP-1(7-Thr⁸Asp¹⁷Arg^{26,34}Lys²⁷-(GAB-Thr^aAsp¹⁸Arg^{26,34}Lys²⁷-(GAB-GHex)-GLP-1(7-36)amide; 36): Thr⁸Asp¹⁹Arg^{26,34}Lys²⁷-(GAB-GHex)-GLP-1(7-37); GHex)-GLP-1(7-36)amide; Thr⁸Asp¹⁹Arg^{26,34}Lys²⁷-(GAB-GHex)-GLP-1(7-38); Thr⁸Asp¹⁷Arg^{26,34}Lys²⁷-(GAB-GHex)-GLP-1(7-
- Arg^{28,34}Lys²³-(GAB-GHex)-GLP-1(7-38); Arg^{26,34}Lys²³-(GAB-GHex)-GLP-1(7-37); Thr⁸Asp¹⁹Arg^{28,34}Lys²³-(GAB-GHex)-GLP-1(7-36); Thr⁸Asp¹⁷Arg^{28,34}Lys²³-(GAB-GHex)-GLP-1(7-Thr⁸Asp¹⁷Arg^{26,34}Lys²³-(GAB-Thr8Asp19Arg28.34Lys23-(GAB-GHex)-GLP-1(7-36)amide; 20 36); Thr⁴Asp¹⁹Arg^{26,34}Lys²³-(GAB-GHex)-GLP-1(7-37); GHex)-GLP-1(7-36)amide; Thr⁸Asp¹⁹Arg^{28,34}Lys²³-(GAB-GHex)-GLP-1(7-38); Thr⁸Asp¹⁷Arg^{28,34}Lys²³-(GAB-GHex)-GLP-1(7-38):
- Thr^aAsp¹⁹Arg^{26,34}Lys¹⁸-(GAB-GHex)-GLP-1(7-36); Thr^aAsp¹⁷Arg^{26,34}Lys¹⁸-(GAB-GHex)-GLP-1(7-ThrªAsp17Arg26,34Lys18-(GAB-Thr⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(GAB-GHex)-GLP-1(7-36)amide; 36): Thr⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(GAB-GHex)-GLP-1(7-37); GHex)-GLP-1(7-36)amide; Thr^aAsp¹⁹Arg^{26,34}Lys¹⁸-(GAB-GHex)-GLP-1(7-38); Thr^aAsp¹⁷Arg^{26,34}Lys¹⁸-(GAB-GHex)-GLP-1(7-15 38); Arg^{26,34}Lys²³-(GAB-GHex)-GLP-1(7-36)amide; Arg^{26,34}Lys²³-(GAB-GHex)-GLP-1(7-36);
- Arg^{26,34}Lys²⁷-(GAB-GHex)-GLP-1(7-37); Ser⁸Asp¹⁹Arg^{26,34}Lys²⁷-(GAB-GHex)-GLP-1(7-36); Ser⁸Asp¹⁷Arg^{26,34}Lys²⁷-(GAB-GHex)-GLP-1(7-5 Ser⁸Asp¹⁹Arg^{26,34}Lys²⁷-(GAB-GHex)-GLP-1(7-36)amide; Ser⁸Asp¹⁷Arg^{26,34}Lys²⁷-(GAB-36); Ser⁸Asp¹⁹Arg^{26,34}Lys²⁷-(GAB-GHex)-GLP-1(7-37); GHex)-GLP-1(7-36)amide; Ser^aAsp¹⁹Arg^{26,34}Lys²⁷-(GAB-GHex)-GLP-1(7-38); Ser^aAsp¹⁷Arg^{26,34}Lys²⁷-(GAB-GHex)-GLP-1(7-38); Arg^{26,34}Lys¹⁸-(GAB-GHex)-GLP-1(7-36)amide;
- Ser^aAsp¹⁹Arg^{28,34}Lys²³-(GAB-GHex)-GLP-1(7-38); Ser^aAsp¹⁷Arg^{26,34}Lys²³-(GAB-GHex)-GLP-1(7-38); Arg^{26,34}Lys²⁷-(GAB-GHex)-GLP-1(7-36)amide; Arg^{26,34}Lys²⁷-(GAB-GHex)-GLP-1(7-36);

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Arg^{26,34}Lys¹⁸-(GAB-GHex)-GLP-1(7-36);

Arg^{26,34}Lys¹⁸-(GAB-GHex)-GLP-1(7-37);

Arg^{26,34}Lys²⁷-(GAB-GHex)-GLP-1(7-38);

Arg^{26,34}Lys¹⁸-(GAB-GHex)-GLP-1(7-38);

Val⁸Arg^{26,34}Lys³⁹-(GAB-GOct)-GLP-1(7-39); Ser⁸Arg³⁴Lys²⁶-(GAB-GOct)-GLP-1(7-36); Ser⁸Arg²⁶Lys³⁴-(GAB-GOct)-GLP-1(7-36); 20 Ser⁸Arg²⁶Lys³⁴-(GAB-GOct)-GLP-1(7-36)amide; Ser⁸Arg^{26,34}Lys³⁶-(GAB-GOct)-GLP-1(7-36); Ser⁸Arg^{26,34}Lys³⁶-(GAB-GOct)-GLP-1(7-Ser⁸Arg³⁴Lys²⁶-(GAB-GOct)-GLP-1(7-36)amide; 36)amide; Ser⁸Arg²⁶Lys³⁴-(GAB-GOct)-GLP-1(7-37); Ser⁸Arg³⁴Lys²⁶-(GAB-GOct)-GLP-1(7-37); Ser⁸Arg²⁶Lys³⁴-(GAB-GOct)-GLP-1(7-38); Ser⁸Arg^{26,34}Lys³⁶-(GAB-GOct)-GLP-1(7-37); Ser⁸Arg^{26,34}Lys³⁸-(GAB-GOct)-GLP-1(7-38); Ser⁴Arg³⁴Lys²⁶-(GAB-GOct)-GLP-1(7-38) 25 Ser^aArg³⁴Lys²⁶-(GAB-GOct)-GLP-1(7-39); Ser⁸Arg²⁶Lys³⁴-(GAB-GOct)-GLP-1(7-39); Ser⁸Arg^{28,34}Lys³⁹-(GAB-GOct)-GLP-1(7-39); Thr8Arg26Lys34-(GAB-GOct)-GLP-1(7-36); Thr⁸Arg³⁴Lys²⁶-(GAB-GOct)-GLP-1(7-36); Thr8Arg26,34Lys36-(GAB-GOct)-GLP-1(7-36); Thr⁸Arg²⁶Lys³⁴-(GAB-GOct)-GLP-1(7-36)amide; ThrªArg^{26,34}Lys³⁶-(GAB-GOct)-GLP-1(7-Thr8Arg34Lys28-(GAB-GOct)-GLP-1(7-36)amide; 30 36)amide; Thr⁸Arg²⁶Lys³⁴-(GAB-GOct)-GLP-1(7-37); Thr⁸Arg³⁴Lys²⁶-(GAB-GOct)-GLP-1(7-37); Thr⁸Arg²⁶Lys³⁴-(GAB-GOct)-GLP-1(7-38): Thr8Arg26.34Lys36-(GAB-GOct)-GLP-1(7-37); Thr⁸Arg^{26,34}Lys³⁸-(GAB-GOct)-GLP-1(7-38); Thr⁸Arg³⁴Lys²⁶-(GAB-GOct)-GLP-1(7-38)

 Gly⁸Arg^{26,34}Lys³⁹-(GAB-GOct)-GLP-1(7-39);

 Val⁸Arg^{26,34}Lys³⁶-(GAB-GOct)-GLP-1(7-36);

 Val⁸Arg^{26,34}Lys³⁶-(GAB-GOct)-GLP-1(7-36);

 Val⁸Arg^{26,34}Lys³⁶-(GAB-GOct)-GLP-1(7-36);

 Val⁸Arg³⁴Lys²⁶-(GAB-GOct)-GLP-1(7-36);

 Val⁸Arg³⁴Lys²⁶-(GAB-GOct)-GLP-1(7-36);

 Val⁸Arg³⁴Lys²⁶-(GAB-GOct)-GLP-1(7-36)amide;

 Val⁸Arg³⁴Lys²⁶-(GAB-GOct)-GLP-1(7-36)amide;

 Val⁸Arg^{26,34}Lys³⁶-(GAB-GOct)-GLP-1(7-37);

 Val⁸Arg^{26,34}Lys³⁶-(GAB-GOct)-GLP-1(7-37);

 Val⁸Arg^{26,34}Lys³⁶-(GAB-GOct)-GLP-1(7-37);

 Val⁸Arg^{26,34}Lys³⁶-(GAB-GOct)-GLP-1(7-37);

 Val⁸Arg^{26,34}Lys³⁶-(GAB-GOct)-GLP-1(7-37);

 Val⁸Arg^{26,34}Lys³⁶-(GAB-GOct)-GLP-1(7-38);

 Val⁸Arg^{26,34}Lys³⁸-(GAB-GOct)-GLP-1(7-38);

 Val⁸Arg^{26,34}Lys³⁸-(GAB-GOct)-GLP-1(7-38);

 Val⁸Arg^{26,34}Lys³⁸-(GAB-GOct)-GLP-1(7-38);

 Gly⁸Arg²⁶Lys³⁴-(GAB-GOct)-GLP-1(7-36);
 Gly⁸Arg³⁴Lys²⁶-(GAB-GOct)-GLP-1(7-36);

 5
 Gly⁸Arg^{26,34}Lys³⁶-(GAB-GOct)-GLP-1(7-36);
 Gly⁸Arg²⁶Lys³⁴-(GAB-GOct)-GLP-1(7-36)amide;

 6
 Gly⁸Arg³⁴Lys²⁶-(GAB-GOct)-GLP-1(7-36);
 Gly⁸Arg²⁶Lys³⁴-(GAB-GOct)-GLP-1(7-36)amide;

 6
 Gly⁸Arg³⁴Lys²⁶-(GAB-GOct)-GLP-1(7-36)amide;
 Gly⁸Arg²⁶Lys³⁴-(GAB-GOct)-GLP-1(7-37);

 6
 Gly⁸Arg²⁶Lys³⁴-(GAB-GOct)-GLP-1(7-37);
 Gly⁸Arg²⁶Lys³⁴-(GAB-GOct)-GLP-1(7-37);

 6
 Gly⁸Arg²⁶Lys³⁴-(GAB-GOct)-GLP-1(7-37);
 Gly⁸Arg²⁶Lys³⁴-(GAB-GOct)-GLP-1(7-38);

 6
 Gly⁸Arg³⁴Lys²⁸-(GAB-GOct)-GLP-1(7-38);
 Gly⁸Arg^{26,34}Lys³⁸-(GAB-GOct)-GLP-1(7-38);

 10
 Gly⁸Arg²⁶Lys³⁴-(GAB-GOct)-GLP-1(7-39);
 Gly⁸Arg³⁴Lys²⁸-(GAB-GOct)-GLP-1(7-39);

(GAB-GOct)-GLP-1(7-38); Arg³⁴Lys²⁸-(GAB-GOct)-GLP-1(7-38) ; Arg^{28,34}Lys³⁸-(GAB-GOct)-GLP-1(7-38); Arg²⁶Lys³⁴-(GAB-GOct)-GLP-1(7-39); Arg³⁴Lys²⁸-(GAB-GOct)-GLP-1(7-39);

144

Arg^{26,34}Lys³⁹-(GAB-GOct)-GLP-1(7-39);

38); Ser⁸Glu³⁸Arg^{26,34}Lys³⁹-(GAB-GOct)-GLP-1(7-39): Ser^aAsp³⁵Arg^{26,34}Lys³⁶-(GAB-GOct)-GLP-1(7-36); Ser^aAsp³⁵Arg^{26,34}Lys³⁶-(GAB-GOct)-GLP-1(7-Ser⁸Asp³⁷Arg^{26,34}Lys³⁸-(GAB-Ser⁸Asp³⁶Arg^{26,34}Lys³⁷-(GAB-GOct)-GLP-1(7-37); 36)amide;

- 38); Val⁸Asp³⁸Arg^{26,34}Lys³⁹-(GAB-GOct)-GLP-1(7-39); Ser^aGlu³⁵Arg^{26,34}Lys³⁶-(GAB-GOct)-GLP-1(7-36); Ser^aGlu³⁵Arg^{26,34}Lys³⁶-(GAB-GOct)-GLP-1(7-36)amide; Ser^aGlu³⁶Arg^{26,34}Lys³⁷-(GAB-GOct)-GLP-1(7-37); Ser^aGlu³⁷Arg^{26,34}Lys³⁸-(GAB-GOct)-GLP-1(7-38); Ser^aGlu³⁸Arg^{28,34}Lys³⁹-(GAB-GOct)-GLP-1(7-39); Ser^aGlu³⁵Arg^{28,34}Lys³⁶-(GAB-Ser⁸Glu³⁵Arg^{28,34}Lys³⁸-(GAB-GOct)-GLP-1(7-36)amide; GOct)-GLP-1(7-36); 30 Ser⁸Glu³⁶Arg^{26,34}Lys³⁷-(GAB-GOct)-GLP-1(7-37); Ser⁸Glu³⁷Arg^{26,34}Lys³⁸-(GAB-GOct)-GLP-1(7-
- 38); Val⁸Glu³⁸Arg^{26,34}Lys³⁹-(GAB-GOct)-GLP-1(7-39); 20 Val⁸Asp³⁵Arg^{26,34}Lys³⁶-(GAB-GOct)-GLP-1(7-36); Val⁸Asp³⁵Arg^{28,34}Lys³⁶-(GAB-GOct)-GLP-1(7-36)amide; Val⁸Asp³⁶Arg^{26,34}Lys³⁷-(GAB-GOct)-GLP-1(7-37); Val⁸Asp³⁷Arg^{28,34}Lys³⁸-(GAB-GOct)-GLP-1(7-38); Val⁸Asp³⁸Arg^{28,34}Lys³⁹-(GAB-GOct)-GLP-1(7-39); Val⁸Asp³⁵Arg^{28,34}Lys³⁶-(GAB-Val⁸Asp³⁵Arg^{28,34}Lys³⁶-(GAB-GOct)-GLP-1(7-36)amide; GOct)-GLP-1(7-36); Val[®]Asp^{3®}Arg^{28,34}Lys³⁷-(GAB-GOct)-GLP-1(7-37); Val[®]Asp³⁷Arg^{28,34}Lys³⁸-(GAB-GOct)-GLP-1(7-25 [`]
- Val⁸Glu³⁵Arg^{28,34}Lys³⁶-(GAB-GOct)-GLP-1(7-36); Val⁸Glu³⁵Arg^{28,34}Lys³⁶-(GAB-GOct)-GLP-1(7-15 36)amide; Val⁸Glu³⁸Arg^{26,34}Lys³⁷-(GAB-GOct)-GLP-1(7-37); Val⁸Glu³⁷Arg^{28,34}Lys³⁸-(GAB-GOct)-GLP-1(7-38); Val⁸Glu³⁸Arg^{26,34}Lys³⁹-(GAB-GOct)-GLP-1(7-39); Val⁸Glu³⁵Arg^{26,34}Lys³⁶-(GAB-Val⁸Glu³⁵Arg^{26,34}Lys³⁶-(GAB-GOct)-GLP-1(7-36)amide; GOct)-GLP-1(7-36); Val⁸Glu³⁶Arg^{26,34}Lys³⁷-(GAB-GOct)-GLP-1(7-37); Val⁸Glu³⁷Arg^{28,34}Lys³⁸-(GAB-GOct)-GLP-1(7-
- Gly⁸Asp³⁵Arg^{26,34}Lys³⁶-(GAB-GOct)-GLP-1(7-36); Gly⁸Asp³⁵Arg^{26,34}Lys³⁶-(GAB-GOct)-GLP-1(7-36)amide; Gly⁸Asp³⁶Arg^{26,34}Lys³⁷-(GAB-GOct)-GLP-1(7-37); Gly⁸Asp³⁷Arg^{26,34}Lys³⁸-(GAB-GOct)-10 GLP-1(7-38); Gly⁸Asp³⁸Arg^{28,34}Lys³⁹-(GAB-GOct)-GLP-1(7-39); Gly⁸Asp³⁵Arg^{28,34}Lys³⁸-(GAB-Gly⁸Asp³⁵Arg^{26,34}Lys³⁶-(GAB-GOct)-GLP-1(7-36)amide; GOct)-GLP-1(7-36); Gly⁸Asp³⁶Arg^{26,34}Lys³⁷-(GAB-GOct)-GLP-1(7-37); Gly⁸Asp³⁷Arg^{26,34}Lys³⁸-(GAB-GOct)-GLP-1(7-38); Gly⁸Asp³⁸Arg^{26,34}Lys³⁹-(GAB-GOct)-GLP-1(7-39);
- Thr⁸Arg^{26,34}Lys³⁹-(GAB-GOct)-GLP-1(7-39): Gly⁸Glu³⁵Arg^{28,34}Lys³⁸-(GAB-GOct)-GLP-1(7-36); Gly⁸Glu³⁵Arg^{28,34}Lys³⁸-(GAB-GOct)-GLP-1(7-36)amide; Gly⁸Glu³⁸Arg^{28,34}Lys³⁷-(GAB-GOct)-GLP-1(7-37); Gly⁸Glu³⁷Arg^{28,34}Lys³⁸-(GAB-GOct)-GLP-1(7-38); Gly⁸Glu³⁸Arg^{26,34}Lys³⁹-(GAB-GOct)-GLP-1(7-39); Gly⁸Glu³⁵Arg^{26,34}Lys³⁶-(GAB-5 Gly⁸Glu³⁵Arg^{28,34}Lys³⁸-(GAB-GOct)-GLP-1(7-36)amide; GOct)-GLP-1(7-36); Gly⁸Glu³⁶Arg^{26,34}Lys³⁷-(GAB-GOct)-GLP-1(7-37); Gly⁸Glu³⁷Arg^{26,34}Lys³⁸-(GAB-GOct)-GLP-1(7-38); Gly⁸Glu³⁸Arg^{26,34}Lys³⁹-(GAB-GOct)-GLP-1(7-39);
- 145 Thr^aArg³⁴Lys²⁶-(GAB-GOct)-GLP-1(7-39); Thr^aArg²⁶Lys³⁴-(GAB-GOct)-GLP-1(7-39);

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 Arg^{28,34}Lys²⁷-(GAB-GOct)-GLP-1(7-36);
 Arg^{26,34}Lys²⁷-(GAB-GOct)-GLP-1(7-36)amide;

 30
 Arg^{26,34}Lys²⁷-(GAB-GOct)-GLP-1(7-37);
 Arg^{26,34}Lys²⁷-(GAB-GOct)-GLP-1(7-38);

 Gly⁸Asp¹⁹Arg^{26,34}Lys²⁷-(GAB-GOct)-GLP-1(7-36);
 Gly⁸Asp¹⁷Arg^{26,34}Lys²⁷-(GAB-GOct)-GLP-1(7-36);

 Gly⁸Asp¹⁹Arg^{26,34}Lys²⁷-(GAB-GOct)-GLP-1(7-36);
 Gly⁸Asp¹⁷Arg^{26,34}Lys²⁷-(GAB-GOct)-GLP-1(7-36);

 Gly⁸Asp¹⁹Arg^{26,34}Lys²⁷-(GAB-GOct)-GLP-1(7-36)amide;
 Gly⁸Asp¹⁷Arg^{26,34}Lys²⁷-(GAB-GOct)-GLP-1(7-36)amide;

 GLP-1(7-36)amide;
 Gly⁸Asp¹⁹Arg^{26,34}Lys²⁷-(GAB-GOct)-GLP-1(7-37);
 Gly⁸Asp¹⁹Arg^{26,34}Lys²⁷-(GAB-GOct)-GLP-1(7-37);

 GAB-GOct)-GLP-1(7-38);
 Gly⁸Asp¹⁷Arg^{26,34}Lys²⁷-(GAB-GOct)-GLP-1(7-38);
 Gly⁸Asp¹⁷Arg^{26,34}Lys²⁷-(GAB-GOct)-GLP-1(7-38);

- Arg^{26,34}Lys²³-(GAB-GOct)-GLP-1(7-37);
 Arg^{26,34}Lys²³-(GAB-GOct)-GLP-1(7-38);

 25
 Gly⁸Asp¹⁹Arg^{26,34}Lys²³-(GAB-GOct)-GLP-1(7-36);
 Gly⁸Asp¹⁷Arg^{26,34}Lys²³-(GAB-GOct)-GLP-1(7-36);

 26
 Gly⁸Asp¹⁹Arg^{26,34}Lys²³-(GAB-GOct)-GLP-1(7-36);
 Gly⁸Asp¹⁷Arg^{26,34}Lys²³-(GAB-GOct)-GLP-1(7-36);

 25
 Gly⁸Asp¹⁹Arg^{26,34}Lys²³-(GAB-GOct)-GLP-1(7-36);
 Gly⁸Asp¹⁷Arg^{26,34}Lys²³-(GAB-GOct)-GLP-1(7-36);

 26
 Gly⁸Asp¹⁹Arg^{26,34}Lys²³-(GAB-GOct)-GLP-1(7-36);
 Gly⁸Asp¹⁹Arg^{26,34}Lys²³-(GAB-GOct)-GLP-1(7-37);

 27
 Gly⁸Asp¹⁹Arg^{26,34}Lys²³-(GAB-GOct)-GLP-1(7-37);
 Gly⁸Asp¹⁹Arg^{26,34}Lys²³-(GAB-GOct)-GLP-1(7-37);

 28
 GAB-GOct)-GLP-1(7-38);
 Gly⁸Asp¹⁷Arg^{26,34}Lys²³-(GAB-GOct)-GLP-1(7-38);
- Gly⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(GAB-GOct)-GLP-1(7-36); Gly⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(GAB-GOct)-GLP-1(7-36); Gly⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(GAB-GOct)-GLP-1(7-36)amide; Gly⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(GAB-GOct)-GLP-1(7-36)amide; Gly⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(GAB-GOct)-GLP-1(7-37); Gly⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(GAB-GOct)-GLP-1(7-38); Gly⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(GAB-GOct)-GLP-1(7-38); Arg^{26,34}Lys²³-(GAB-GOct)-GLP-1(7-36); Arg^{26,34}Lys²³-(GAB-GOct)-GLP-1(7-36)amide;
- Thr³Asp³⁵Arg^{26,34}Lys³⁷-(GAB-GOct)-GLP-1(7-37); Thr³Asp³⁷Arg^{26,34}Lys³⁵-(GAB-GOct)-GLP-1(7-38); Arg^{26,34}Lys¹⁸-(GAB-GOct)-GLP-1(7-36); Arg^{26,34}Lys¹⁸-(GAB-GOct)-GLP-1(7-36)amide; Arg^{26,34}Lys¹⁸-(GAB-GOct)-GLP-1(7-37); Arg^{26,34}Lys¹⁸-(GAB-GOct)-GLP-1(7-38); Gly⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(GAB-GOct)-GLP-1(7-36); Gly⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(GAB-GOct)-GLP-1(7-36); Gly⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(GAB-GOct)-GLP-1(7-36)amide; Gly⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(GAB-GOct)-GLP-1(7-36); Gly⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(GAB-GOct)-GLP-1(7-36)amide; Gly⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(GAB-GOct)-GLP-1(7-36); Gly⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(GAB-GOct)-GLP-1(7-36)amide; Gly⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(GAB-GOct)-GLP-1(7-36)amide; Gly⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(GAB-GOct)-GLP-1(7-36)amide; Gly⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(GAB-GOct)-GLP-1(7-36)amide; Gly⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(GAB-GOct)-GLP-1(7-36)amide; Gly⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(GAB-GOct)-
- 38); Thr⁸Glu³⁸Arg^{28,34}Lys³⁹-(GAB-GOct)-GLP-1(7-39); Thr⁸Asp³⁵Arg^{26,34}Lys³⁶-(GAB-GOct)-GLP-1(7-36); Thr⁸Asp³⁵Arg^{26,34}Lys³⁸-(GAB-GOct)-GLP-1(7-36); Thr⁸Asp³⁶Arg^{26,34}Lys³⁹-(GAB-GOct)-GLP-1(7-39); Thr⁸Asp³⁵Arg^{26,34}Lys³⁸-(GAB-GOct)-GLP-1(7-39); Thr⁸Asp³⁵Arg^{26,34}Lys³⁶-(GAB-GOct)-GLP-1(7-36); Thr⁸Asp³⁵Arg^{26,34}Lys³⁸-(GAB-GOct)-GLP-1(7-36); Thr⁸Asp³⁵Arg^{26,34}Lys³⁸-(GAB-GOct)-GLP-1(7-37); Thr⁸Asp³⁵Arg^{26,34}Lys³⁸-(GAB-GOct)-GLP-1(
- 5 Thr⁸Glu³⁵Arg^{28,34}Lys³⁸-(GAB-GOct)-GLP-1(7-36); Thr⁸Glu³⁵Arg^{28,34}Lys³⁸-(GAB-GOct)-GLP-1(7-36)amide; Thr⁸Glu³⁶Arg^{28,34}Lys³⁷-(GAB-GOct)-GLP-1(7-37); Thr⁸Glu³⁷Arg^{28,34}Lys³⁸-(GAB-GOct)-GLP-1(7-38); Thr⁸Glu³⁸Arg^{28,34}Lys³⁹-(GAB-GOct)-GLP-1(7-39); Thr⁸Glu³⁵Arg^{28,34}Lys³⁶-(GAB-GOct)-GLP-1(7-36); Thr⁸Glu³⁵Arg^{26,34}Lys³⁸-(GAB-GOct)-GLP-1(7-36)amide; Thr⁸Glu³⁶Arg^{28,34}Lys³⁷-(GAB-GOct)-GLP-1(7-37); Thr⁸Glu³⁷Arg^{28,34}Lys³⁸-(GAB-GOct)-GLP-1(7-

GOct)-GLP-1(7-38); Ser⁸Asp³⁸Arg^{28,34}Lys³⁹-(GAB-GOct)-GLP-1(7-39); Ser⁸Asp³⁵Arg^{26,34}Lys³⁶-(GAB-GOct)-GLP-1(7-36); Ser⁸Asp³⁵Arg^{26,34}Lys³⁸-(GAB-GOct)-GLP-1(7-36)amide; Ser⁸Asp³⁶Arg^{28,34}Lys³⁷-(GAB-GOct)-GLP-1(7-37); Ser⁸Asp³⁷Arg^{26,34}Lys³⁸-(GAB-GOct)-GLP-1(7-38); Ser⁸Asp³⁸Arg^{26,34}Lys³⁹-(GAB-GOct)-GLP-1(7-39);

Ser ^a Asp ¹⁹ Arg ^{26,34} Lys ²³ -(GAB-GOct)-GLP-1(7-36	δ); Ser ^a Asp ¹⁷ Arg ^{28,34} Lys ²³ -(GAB-GOct)-GLP-1(7-
36); Ser ^s Asp ¹⁹ Arg ^{26,34} Lys ²³ -(GAB-GOct)-GLI	
GOct)-GLP-1(7-36)amide;	Ser ⁸ Asp ¹⁹ Arg ^{26,34} Lys ²³ -(GAB-GOct)-GLP-1(7-37);
Ser ^a Asp ¹⁹ Arg ^{26,34} Lys ²³ -(GAB-GOct)-GLP-1(7-38	3); Ser ^a Asp ¹⁷ Arg ^{26,34} Lys ²³ -(GAB-GOct)-GLP-1(7-
38);	
Arg ^{28,34} Lys ²⁷ -(GAB-GOct)-GLP-1(7-36);	Arg ^{25,34} Lys ²⁷ -(GAB-GOct)-GLP-1(7-36)amide;
Arg ^{26,34} Lys ²⁷ -(GAB-GOct)-GLP-1(7-37);	Arg ^{26,34} Lys ²⁷ -(GAB-GOct)-GLP-1(7-38);

 SerAsp*Arg***Lys**-(GAB-GOct)-GLP-1(7-36);
 SerAsp*Arg***Lys**-(GAB-GOct)-GLP-1(7-36);

 36);
 Ser⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(GAB-GOct)-GLP-1(7-36)amide;

 GOct)-GLP-1(7-36)amide;
 Ser⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(GAB-GOct)-GLP-1(7-37);

 Ser⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(GAB-GOct)-GLP-1(7-38);
 Ser⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(GAB-GOct)-GLP-1(7-37);

 Ser⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(GAB-GOct)-GLP-1(7-38);
 Ser⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(GAB-GOct)-GLP-1(7-37);

 Ser⁸Asp¹⁹Arg^{26,34}Lys²³-(GAB-GOct)-GLP-1(7-36);
 Arg^{28,34}Lys²³-(GAB-GOct)-GLP-1(7-36);

 Arg^{28,34}Lys²³-(GAB-GOct)-GLP-1(7-37);
 Arg^{28,34}Lys²³-(GAB-GOct)-GLP-1(7-38);

- 36); Val⁸Asp¹⁹Arg^{28,34}Lys²⁷-(GAB-GOct)-GLP-1(7-36)amide; Val⁸Asp¹⁷Arg^{28,34}Lys²⁷-(GAB-GOct)-GLP-1(7-37); Val⁸Asp¹⁹Arg^{28,34}Lys²⁷-(GAB-GOct)-GLP-1(7-37); Val⁸Asp¹⁹Arg^{28,34}Lys²⁷-(GAB-GOct)-GLP-1(7-38); Arg^{26,34}Lys¹⁸-(GAB-GOct)-GLP-1(7-36); Arg^{26,34}Lys¹⁸-(GAB-GOct)-GLP-1(7-36)amide; Arg^{26,34}Lys¹⁸-(GAB-GOct)-GLP-1(7-37); Arg^{26,34}Lys¹⁸-(GAB-GOct)-GLP-1(7-38); Ser⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(GAB-GOct)-GLP-1(7-36); Ser⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(GAB-GOct)-GLP-1(7-36); Ser⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(GAB-GOct)-GLP-1(7-36); Ser⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(GAB-GOct)-GLP-1(7-36); Ser⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(GAB-GOct)-GLP-1(7-36); Ser⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(GAB-GOct)-GLP-1(7-36); Ser⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(GAB-GOct)-GLP-1(7-36); Ser⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(GAB-GOct)-GLP-1(7-36); Ser⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(GAB-GOct)-GLP-1(7-36); Ser⁸Asp¹⁸Arg^{26,34}Lys¹⁸-(GAB-GOct)-GLP-1(7-37); Ser⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(GAB-GOct)-GLP-1(7-37); Ser⁸Asp¹⁸Arg^{26,34}Lys¹⁸-(GAB-GOct)-GLP-1(7-37); Ser⁸Asp¹⁸Arg^{26,34}Lys¹⁸-(SAB-GOct)-SLP-1(7-37); Ser⁸Asp¹⁸Arg^{26,34}Lys¹⁸-(SAB-GOct)-SLP-1(7-37); Ser⁸Asp¹⁸Arg^{26,34}Lys¹⁸-(SAB-GOct)-SLP-1(7-37); Ser⁸Asp¹⁸Arg^{26,34}Lys¹⁸-(SAB-SOct)-SLP-1(7-37); Ser⁸Asp¹⁸Arg^{26,34}Lys¹⁸-(SAB-SOct)-SLP-1(7-37); Ser⁸Asp¹⁸Arg^{26,34}Lys¹⁸-(SAB-SOct)-SLP-1(7-37); Ser⁸Asp¹⁸Arg^{26,34}Lys¹⁸-(SAB-SOct)-SLP-1(7-37); Ser⁸Asp¹⁸Arg^{26,34}Lys¹⁸-(SAB-SOct)-SLP-1(7-37); Ser⁸Asp¹⁸Arg^{26,34}Lys¹⁸-(SAB-SOc
- GLP-1(7-36)amide; Val⁸Asp¹⁹Arg^{26,34}Lys²³-(GAB-GOct)-GLP-1(7-37); Val⁸Asp¹⁹Arg^{26,34}Lys²³-(GAB-GOct)-GLP-1(7-38); Val⁸Asp¹⁷Arg^{26,34}Lys²³-(GAB-GOct)-GLP-1(7-38); Arg^{26,34}Lys²⁷-(GAB-GOct)-GLP-1(7-36); Arg^{26,34}Lys²⁷-(GAB-GOct)-GLP-1(7-36)amide; Arg^{26,34}Lys²⁷-(GAB-GOct)-GLP-1(7-37); Arg^{26,34}Lys²⁷-(GAB-GOct)-GLP-1(7-38); Val⁸Asp¹⁹Arg^{26,34}Lys²⁷-(GAB-GOct)-GLP-1(7-36); Val⁸Asp¹⁷Arg^{26,34}Lys²⁷-(GAB-GOct)-GLP-1(7-38); Val⁸Asp¹⁹Arg^{26,34}Lys²⁷-(GAB-GOct)-GLP-1(7-36); Val⁸Asp¹⁷Arg^{26,34}Lys²⁷-(GAB-GOct)-GLP-1(7-36); Val⁸Asp¹⁷Arg^{26,34}Lys²⁷-(GAB-GOc
- 5 GLP-1(7-36)amide; Val⁹Asp¹⁹Arg^{28,34}Lys¹⁸-(GAB-GOct)-GLP-1(7-37); Val⁷Asp¹⁰Arg^{28,34}Lys²³-(GAB-GOct)-GLP-1(7-38);
 Arg^{28,34}Lys²³-(GAB-GOct)-GLP-1(7-36); Arg^{28,34}Lys²³-(GAB-GOct)-GLP-1(7-36)amide;
 Arg^{28,34}Lys²³-(GAB-GOct)-GLP-1(7-37); Arg^{28,34}Lys²³-(GAB-GOct)-GLP-1(7-38);
 Val⁸Asp¹⁹Arg^{28,34}Lys²³-(GAB-GOct)-GLP-1(7-36); Val⁸Asp¹⁷Arg^{28,34}Lys²³-(GAB-GOct)-GLP-1(7-38);
 Val⁸Asp¹⁹Arg^{28,34}Lys²³-(GAB-GOct)-GLP-1(7-36); Val⁸Asp¹⁷Arg^{28,34}Lys²³-(GAB-GOct)-GLP-1(7-36);
 36); Val⁸Asp¹⁹Arg^{28,34}Lys²³-(GAB-GOct)-GLP-1(7-36)amide; Val⁸Asp¹⁷Arg^{28,34}Lys²³-(GAB-GOct)-GLP-1(7-36)amide; Val⁸Asp¹⁹Arg^{28,34}Lys²³-(GAB-GOct)-GLP-1(7-36)amide; Val⁸Asp¹⁹Arg^{28,34}Lys²³-(GAB-GOct)-GLP-1(7-36)amide; Val⁸Asp¹⁹Arg^{28,34}Lys²³-(GAB-GOct)-GLP-1(7-36)amide; Val⁸Asp¹⁹Arg^{28,34}Lys²³-(GAB-GOct)-GLP-1(7-36)amide; Val⁸Asp¹⁹Arg^{28,34}Lys²³-(GAB-GOct)-GLP-1(7-36)amide; Val⁸Asp¹⁹Arg^{28,34}Lys²³-(GAB-GOct)-GLP-1(7-36)amide; Val⁸Asp¹⁹Arg^{28,34}Lys²³-(GAB-GOct)-GLP-1(7-36)amide; Val⁸Asp¹⁹Arg^{28,34}Lys²³-(GAB-GOct)-GLP-1(7-36)amide; Val⁸Asp¹⁹Arg^{28,34}Lys²³-(GAB-GOct)-GLP-1(7-37); Val⁸Asp¹⁹Arg^{28,34}Lys²³-(GAB-GOct)-GLP-1(7-36)amide; Val⁸Asp¹⁹Arg^{28,34}Lys²³-(GAB-GOct)-GLP-1(7-37); Val⁸Asp¹⁹Arg^{28,34}Lys²³-(GAB-GOct)-GLP-1(7-37); Val⁸Asp¹⁹Arg^{28,34}Lys²³-(GAB-GOct)-GLP-1(7-37); Val⁸Asp¹⁹Arg^{28,34}Lys²³-(GAB-GOct)-GLP-1(7-37); Val⁸Asp¹⁹Arg^{28,34}Lys²³-(GAB-GOct)-GLP-1(7-37); Val⁸Asp¹⁹Arg^{28,34}Lys²³-(GAB-GOct)-GLP-1(7-37); Val⁸Asp¹⁹Arg^{28,34}Lys²³-(GAB-GOct)-GLP-1(7-37); Val⁸Asp¹⁹Arg^{28,34}Lys²³-(GAB-GOct)-GLP-1(7-37); Val⁸Asp¹⁹Arg^{28,34}Lys²³-(GAB-GOct)-GLP-1(7-37); Val⁸Asp¹⁹Arg^{28,34}Lys³⁴-(GAB-GOct)-GLP-1(7-37); Val⁸Asp¹⁹Arg^{28,34}Lys³⁴-(GAB-GOct)-GLP-1(7-37); Val⁸Asp¹⁹Arg^{28,34}Lys³⁴-(GAB-GOct)-GLP-1(7-37); Val⁸Asp¹⁹Arg^{28,34}Lys³⁴-(GAB-GOct)-GLP-1(7-37); Val⁸Asp
- Arg^{26,34}Lys¹⁸-(GAB-GOct)-GLP-1(7-36);
 Arg^{26,34}Lys¹⁸-(GAB-GOct)-GLP-1(7-36)amide;

 Arg^{26,34}Lys¹⁸-(GAB-GOct)-GLP-1(7-37);
 Arg^{26,34}Lys¹⁸-(GAB-GOct)-GLP-1(7-38);

 Val⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(GAB-GOct)-GLP-1(7-36);
 Val⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(GAB-GOct)-GLP-1(7-38);

 Val⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(GAB-GOct)-GLP-1(7-36);
 Val⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(GAB-GOct)-GLP-1(7-36)amide;

 Sol;
 Val⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(GAB-GOct)-GLP-1(7-36)amide;

 Val⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(GAB-GOct)-GLP-1(7-37);
 Val⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(GAB-GOct)-GLP-1(7-37);

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Arg^{26,34}Lys²³-(GAB-GOct)-GLP-1(7-36)amide;

Arg^{26,34}Lys²⁷-(GAB-GOct)-GLP-1(7-36)amide;

Arg^{26,34}Lys²⁷-(GAB-GOct)-GLP-1(7-38);

Arg^{26,34}Lys²³-(GAB-GOct)-GLP-1(7-38);

Gly8Arg34Lys28-(GAB-GLit)-GLP-1(7-36); Gly8Arg26Lys34-(GAB-GLit)-GLP-1(7-36)amide;

Gly8Arg26,34Lys36-(GAB-GLit)-GLP-1(7-36); Gly⁸Arg^{26,34}Lys³⁶-(GAB-GLit)-GLP-1(7-Gly⁸Arg³⁴Lys²⁶-(GAB-GLit)-GLP-1(7-36)amide; 36)amide; Gly⁸Arg²⁶Lys³⁴-(GAB-GLit)-GLP-1(7-37); Gly⁸Arg³⁴Lys²⁶-(GAB-GLit)-GLP-1(7-37);

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GLit)-GLP-1(7-39);

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38); Arg^{26,34}Lys¹⁸-(GAB-GOct)-GLP-1(7-36)amide; Arg^{26,34}Lys¹⁸-(GAB-GOct)-GLP-1(7-36); Arg^{28,34}Lys¹⁸-(GAB-GOct)-GLP-1(7-38); Arg^{26,34}Lys¹⁸-(GAB-GOct)-GLP-1(7-37); Thr⁸Asp¹⁸Arg^{26,34}Lys¹⁸-(GAB-GOct)-GLP-1(7-36); Thr⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(GAB-GOct)-GLP-1(7-36); Thr^aAsp¹⁹Arg^{26,34}Lys¹⁸-(GAB-GOct)-GLP-1(7-36)amide; Thr^aAsp¹⁷Arg^{26,34}Lys¹⁸-(GAB-GOct)-GLP-1(7-36)amide; Thr⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(GAB-GOct)-GLP-1(7-37); Thr⁸Asp¹⁹Arg^{26,34}Lys¹⁸-

Thr⁸Asp¹⁹Arg^{28,34}Lys²³-(GAB-GOct)-GLP-1(7-36); Thr⁸Asp¹⁷Arg^{28,34}Lys²³-(GAB-GOct)-GLP-1(7-36); Thr⁸Asp¹⁹Arg^{26,34}Lys²³-(GAB-GOct)-GLP-1(7-36)amide; Thr⁸Asp¹⁷Arg^{26,34}Lys²³-(GAB-GOct)-

GLP-1(7-36)amide; Thr⁸Asp¹⁹Arg^{26,34}Lys²³-(GAB-GOct)-GLP-1(7-37); Thr⁸Asp¹⁹Arg^{26,34}Lys²³-

Thr8Asp19Arg26,34Lys27-(GAB-GOct)-GLP-1(7-36); Thr8Asp17Arg26,34Lys27-(GAB-GOct)-GLP-1(7-

36); Thr⁸Asp¹⁸Arg^{26,34}Lys²⁷-(GAB-GOct)-GLP-1(7-36)amide; Thr⁸Asp¹⁷Arg^{26,34}Lys²⁷-(GAB-GOct)-GLP-1(7-36)amide; Thr⁸Asp¹⁹Arg^{26,34}Lys²⁷-(GAB-GOct)-GLP-1(7-37); Thr⁸Asp¹⁹Arg^{28,34}Lys²⁷-

Arg²⁶Lys³⁴-(GAB-GLit)-GLP-1(7-36); Arg³⁴Lys²⁶-(GAB-GLit)-GLP-1(7-36); Arg^{26,34}Lys³⁶-(GAB-GLit)-GLP-1(7-36); Arg²⁶Lys³⁴-(GAB-GLit)-GLP-1(7-36)amide; Arg³⁴ Lys²⁶-(GAB-GLit)-GLP-1(7-

36)amide; Arg^{26,34}Lys³⁶-(GAB-GLit)-GLP-1(7-36)amide; Arg²⁶ Lys³⁴-(GAB-GLit)-GLP-1(7-37); Arg³⁴Lys²⁶-(GAB-GLit)-GLP-1(7-37); Arg^{26,34}Lys³⁶-(GAB-GLit)-GLP-1(7-37); Arg²⁶Lys³⁴-(GAB-GLit)-GLP-1(7-38); Arg³⁴Lys²⁶-(GAB-GLit)-GLP-1(7-38); Arg^{26,34}Lys³⁸-(GAB-GLit)-GLP-1(7-38); Arg26Lys34-(GAB-GLit)-GLP-1(7-39); Arg34Lys26-(GAB-GLit)-GLP-1(7-39); Arg26.34Lys39-(GAB-

(GAB-GOct)-GLP-1(7-38); Thr⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(GAB-GOct)-GLP-1(7-38);

(GAB-GOct)-GLP-1(7-38); Thr⁸Asp¹⁷Arg^{26,34}Lys²³-(GAB-GOct)-GLP-1(7-38);

(GAB-GOct)-GLP-1(7-38); Thr⁸Asp¹⁷Arg^{28,34}Lys²⁷-(GAB-GOct)-GLP-1(7-38);

Arg^{26,34}Lys²³-(GAB-GOct)-GLP-1(7-36);

Arg^{26,34}Lys²³-(GAB-GQct)-GLP-1(7-37);

Arg^{26,34}Lys²⁷-(GAB-GOct)-GLP-1(7-36); Arg^{26,34}Lys²⁷-(GAB-GOct)-GLP-1(7-37);

Gly⁸Arg²⁶Lys³⁴-(GAB-GLit)-GLP-1(7-36);

Ser⁸Asp¹⁹Arg^{28,34}Lys²⁷-(GAB-GOct)-GLP-1(7-36); Ser⁸Asp¹⁷Arg^{28,34}Lys²⁷-(GAB-GOct)-GLP-1(7-Ser⁸Asp¹⁹Arg^{26,34}Lys²⁷-(GAB-GOct)-GLP-1(7-36)amide; Ser⁸Asp¹⁷Arg^{26,34}Lys²⁷-(GAB-36); Ser⁸Asp¹⁹Arg^{28,34}Lys²⁷-(GAB-GOct)-GLP-1(7-37); GOct)-GLP-1(7-36)amide; Ser⁸Asp¹⁹Arg^{26,34}Lys²⁷-(GAB-GOct)-GLP-1(7-38); Ser⁸Asp¹⁷Arg^{26,34}Lys²⁷-(GAB-GOct)-GLP-1(7-

36)amide; Val[®]Arg²⁶Lys³⁴-(GAB-GLit)-GLP-1(7-37); Val⁸Arg²⁶Lys³⁴-(GAB-GLit)-GLP-1(7-38); Val8Arg26,34Lys36-(GAB-GLit)-GLP-1(7-37); Val[®]Arg^{26,34}Lys³⁸-(GAB-GLit)-GLP-1(7-38); Val⁸Arg³⁴Lys²⁶-(GAB-GLit)-GLP-1(7-38) 10 Val⁸Arg³⁴Lys²⁶-(GAB-GLit)-GLP-1(7-39); Val⁸Arg²⁶Lys³⁴-(GAB-GLit)-GLP-1(7-39); Val⁸Arg^{26,34}Lys³⁹-(GAB-GLit)-GLP-1(7-39); Ser⁸Arg³⁴Lys²⁶-(GAB-GLit)-GLP-1(7-36); Ser⁸Arg²⁶Lys³⁴-(GAB-GLit)-GLP-1(7-36); Ser⁸Arg²⁶Lys³⁴-(GAB-GLit)-GLP-1(7-36)amide; Ser⁸Arg^{26,34}Lys³⁶-(GAB-GLit)-GLP-1(7-36); Ser⁸Arg^{26,34}Lys³⁶-(GAB-GLit)-GLP-1(7-Ser⁸Arg³⁴Lys²⁶-(GAB-GLit)-GLP-1(7-36)amide; 15 Ser⁸Arg³⁴Lys²⁶-(GAB-GLit)-GLP-1(7-37); 36)amide; Ser⁸Arg²⁶Lys³⁴-(GAB-GLit)-GLP-1(7-37); Ser⁸Arg²⁶Lys³⁴-(GAB-GLit)-GLP-1(7-38); Ser⁸Arg^{26,34}Lys³⁶-(GAB-GLit)-GLP-1(7-37); Ser⁸Arg³⁴Lvs²⁶-(GAB-GLit)-GLP-1(7-38) Ser⁸Arg^{26,34}Lys³⁸-(GAB-GLit)-GLP-1(7-38); Ser⁸Arg³⁴Lys²⁶-(GAB-GLit)-GLP-1(7-39); Ser⁸Arg²⁶Lys³⁴-(GAB-GLit)-GLP-1(7-39); Ser⁸Arg^{26,34}Lys³⁹-(GAB-GLit)-GLP-1(7-39); 20 Thr⁸Arg³⁴Lys²⁶-(GAB-GLit)-GLP-1(7-36); Thr⁸Arg²⁶Lys³⁴-(GAB-GLit)-GLP-1(7-36); Thr⁸Arg²⁶Lys³⁴-(GAB-GLit)-GLP-1(7-36)amide; Thr8Arg26,34Lys36-(GAB-GLit)-GLP-1(7-36); -Thr⁸Arg^{26,34}Lys³⁶-(GAB-GLit)-GLP-1(7-Thr^aArg³⁴Lys²⁶-(GAB-GLit)-GLP-1(7-36)amide; 36)amide; Thr⁸Arg²⁶Lys³⁴-(GAB-GLit)-GLP-1(7-37); Thr⁸Arg³⁴Lys²⁶-(GAB-GLit)-GLP-1(7-37); Thr⁸Arg²⁶Lys³⁴-(GAB-GLit)-GLP-1(7-38); Thr8Arg26,34Lys36-(GAB-GLit)-GLP-1(7-37); 25 Thr8Arg26,34Lys38-(GAB-GLit)-GLP-1(7-38); Thr⁸Arg³⁴Lys²⁸-(GAB-GLit)-GLP-1(7-38) Thr⁸Arg³⁴Lys²⁸-(GAB-GLit)-GLP-1(7-39); Thr⁸Arg²⁶Lys³⁴-(GAB-GLit)-GLP-1(7-39); Thr⁸Arg^{26,34}Lys³⁹-(GAB-GLit)-GLP-1(7-39); Gly8Glu35Arg26,34Lys36-(GAB-GLit)-GLP-1(7-Gly⁸Glu³⁵Arg^{26,34}Lys³⁶-(GAB-GLit)-GLP-1(7-36); 36)amide; Gly⁸Glu³⁶Arg^{26,34}Lys³⁷-(GAB-GLit)-GLP-1(7-37); Gly⁸Glu³⁷Arg^{26,34}Lys³⁸-(GAB-GLit)-30 GLP-1(7-38); Gly⁸Glu³⁸Arg^{26,34}Lys³⁹-(GAB-GLit)-GLP-1(7-39); Gly⁸Glu³⁵Arg^{26,34}Lys³⁸-(GAB-GLit)-Glv8Glu36Arg26,34Lys37-Gly⁸Glu³⁵Arg^{26,34}Lys³⁶-(GAB-GLit)-GLP-1(7-36)amide; GLP-1(7-36); (GAB-GLit)-GLP-1(7-37); Gly⁸Glu³⁷Arg^{26,34}Lys³⁸-(GAB-GLit)-GLP-1(7-38); Gly⁸Glu³⁸Arg^{26,34}Lys³⁹-(GAB-GLit)-GLP-1(7-39);

Gly⁸Arg^{26,34}Lys³⁶-(GAB-GLit)-GLP-1(7-37); Gly⁸Arg³⁴Lys²⁶-(GAB-GLit)-GLP-1(7-38) ; Gly⁸Arg²⁶Lys³⁴-(GAB-GLit)-GLP-1(7-39); Gly⁸Arg^{26,34}Lys³⁹-(GAB-GLit)-GLP-1(7-36); Val⁸Arg^{26,34}Lys³⁵-(GAB-GLit)-GLP-1(7-36); Val⁸Arg³⁴Lys²⁶-(GAB-GLit)-GLP-1(7-36)amide;

Val⁸Arg³⁴Lys²⁶-(GAB-GLit)-GLP-1(7-36); Val⁸Arg²⁶Lys³⁴-(GAB-GLit)-GLP-1(7-36)amide; Val⁸Arg^{26,34}Lys³⁶-(GAB-GLit)-GLP-1(7-37); Val⁸Arg³⁴Lys²⁶-(GAB-GLit)-GLP-1(7-37); Val⁸Arg²⁶Lys³⁴-(GAB-GLit)-GLP-1(7-38); Val⁸Arg^{26,34}Lys³⁸-(GAB-GLit)-GLP-1(7-38);

Gly⁸Arg²⁶Lys³⁴-(GAB-GLit)-GLP-1(7-38); Gly⁸Arg^{26,34}Lys³⁸-(GAB-GLit)-GLP-1(7-38); Gly⁸Arg³⁴Lys²⁶-(GAB-GLit)-GLP-1(7-39);

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38); Ser⁴Asp³⁸Arg^{26,34}Lys³⁹-(GAB-GLit)-GLP-1(7-39); Thr⁸Glu³⁵Arg^{26,34}Lys³⁶-(GAB-GLit)-GLP-1(7-36); Thr⁸Glu³⁵Arg^{26,34}Lys³⁶-(GAB-GLit)-GLP-1(7-36)amide; Thr⁸Glu³⁶Arg^{26,34}Lys³⁷-(GAB-GLit)-GLP-1(7-37); Thr⁸Glu³⁷Arg^{26,34}Lys³⁸-(GAB-GLit)-GLP-1(7-38); Thr⁸Glu³⁸Arg^{26,34}Lys³⁹-(GAB-GLit)-GLP-1(7-39); Thr⁸Glu³⁵Arg^{26,34}Lys³⁸-(GAB-GLit)-GLP-1(7-36); Thr⁸Glu³⁵Arg^{26,34}Lys³⁶-(GAB-GLit)-GLP-1(7-36)amide; Thr⁸Glu³⁸Arg^{26,34}Lys³⁷-

- Ser³Arg^{26,34}Lys³⁶-(GAB-GLit)-GLP-1(7-39);
 Ser⁴Asp³⁵Arg^{26,34}Lys³⁶-(GAB-GLit)-GLP-1(7-36); Ser⁴Asp³⁵Arg^{26,34}Lys³⁶-(GAB-GLit)-GLP-1(7-36); and and a ser⁴Asp³⁶Arg^{26,34}Lys³⁷-(GAB-GLit)-GLP-1(7-37); Ser⁴Asp³⁷Arg^{26,34}Lys³⁸-(GAB-GLit)-GLP-1(7-38); Ser⁴Asp³⁸Arg^{26,34}Lys³⁹-(GAB-GLit)-GLP-1(7-39); Ser⁴Asp³⁵Arg^{26,34}Lys³⁸-(GAB-GLit)-GLP-1(7-36); Ser⁴Asp³⁵Arg^{26,34}Lys³⁶-(GAB-GLit)-GLP-1(7-36); Ser⁴Asp³⁵Arg^{26,34}Lys³⁶-(GAB-GLit)-GLP-1(7-36); Ser⁴Asp³⁵Arg^{26,34}Lys³⁶-(GAB-GLit)-GLP-1(7-36); Ser⁴Asp³⁵Arg^{26,34}Lys³⁶-(GAB-GLit)-GLP-1(7-37); Ser⁴Asp³⁶-(GAB-GLit)-GLP-1(7-36); Ser⁴Asp³⁶Arg^{26,34}Lys³⁷-(GAB-GLit)-GLP-1(7-37); Ser⁴Asp³⁶-(GAB-GLit)-GLP-1(7-36); Ser⁴Asp³⁶Arg^{26,34}Lys³⁶-(GAB-GLit)-GLP-1(7-37); Ser⁴Asp³⁶-(GAB-GLit)-GLP-1(7-38); Ser⁴Asp³⁶-(GAB-GLit)-GLP-1(7-39); Ser⁴Asp³⁶-(GAB-GLit)-Ser⁴-(GAB-GLit)-Ser⁴-(GAB-GLit)-Ser⁴-(GAB-GLit)-Ser⁴-(GAB-GLit)-Ser⁴-(GAB-GLit)-Ser⁴-(GAB-GLit)-Ser⁴-(GAB-GLit)-Ser⁴-(GAB-GLit)-Ser⁴-(GAB-GLit)-Ser⁴-(GAB-GLit)-Ser⁴-(GAB-GLit)-Ser⁴-(GAB-GLit)-Ser⁴-(GAB-GLit)-Ser⁴-(GAB-GLit)
- Ser⁸Glu³³Arg^{26,34}Lys³⁹-(GAB-GLit)-GLP-1(7-36); Ser⁸Glu³⁵Arg^{26,34}Lys³⁹-(GAB-GLit)-GLP-1(7-37); Ser⁸Glu³⁷Arg^{26,34}Lys³⁸-(GAB-GLit)-GLP-1(7-38); Ser⁸Glu³⁶Arg^{26,34}Lys³⁹-(GAB-GLit)-GLP-1(7-39); Ser⁸Glu³⁵Arg^{26,34}Lys³⁶-(GAB-GLit)-GLP-1(7-36); Ser⁸Glu³⁵Arg^{26,34}Lys³⁸-(GAB-GLit)-GLP-1(7-36)amide; Ser⁸Glu³⁶Arg^{26,34}Lys³⁷- (GAB-GLit)-GLP-1(7-37); Ser⁸Glu³⁷Arg^{26,34}Lys³⁸-(GAB-GLit)-GLP-1(7-38); Ser⁸Glu³⁸Arg^{26,34}Lys³⁹-(GAB-GLit)-GLP-1(7-37); Ser⁸Glu³⁷Arg^{26,34}Lys³⁸-(GAB-GLit)-GLP-1(7-38); Ser⁸Glu³⁸Arg^{26,34}Lys³⁹-(GAB-GLit)-GLP-1(7-39);
- Val⁸Asp³⁸Arg^{26,34}Lys³⁷-(GAB-GLit)-GLP-1(7-37); Val⁸Asp³⁷Arg^{26,34}Lys³⁸-(GAB-GLit)-GLP-1(7-38); Val⁸Asp³⁸Arg^{26,34}Lys³⁹-(GAB-GLit)-GLP-1(7-39); Ser⁸Glu³⁵Arg^{26,34}Lys³⁶-(GAB-GLit)-GLP-1(7-36); Ser⁸Glu³⁵Arg^{26,34}Lys³⁶-(GAB-GLit)-GLP-1(7-
- (GAB-GLit)-GLP-1(7-39);
 Val⁸Asp³⁵Arg^{26,34}Lys³⁶-(GAB-GLit)-GLP-1(7-36);
 Val⁸Asp³⁵Arg^{26,34}Lys³⁶-(GAB-GLit)-GLP-1(7-37);
 Val⁸Asp³⁶Arg^{26,34}Lys³⁷-(GAB-GLit)-GLP-1(7-37);
 Val⁸Asp³⁵Arg^{26,34}Lys³⁸-(GAB-GLit)-GLP-1(7-39);
 Val⁸Asp³⁵Arg^{26,34}Lys³⁶-(GAB-GLit)-GLP-1(7-39);
 Val⁸Asp³⁵Arg^{26,34}Lys³⁶-(GAB-GLit)-GLP-1(7-36);
 Val⁸Asp³⁵Arg^{26,34}Lys³⁶-(GAB-GLit)-GLP-1(7-36);
- Gły⁸Asp³⁸Arg^{26,34}Lys³⁹-(GAB-GLit)-GLP-1(7-39);
 Val⁸Glu³⁵Arg^{26,34}Lys³⁸-(GAB-GLit)-GLP-1(7-36);
 Val⁸Glu³⁵Arg^{26,34}Lys³⁸-(GAB-GLit)-GLP-1(7-37);
 Val⁸Glu³⁷Arg^{26,34}Lys³⁸-(GAB-GLit)-GLP-1(7-37);
 Val⁸Glu³⁵Arg^{26,34}Lys³⁸-(GAB-GLit)-GLP-1(7-39);
 Val⁸Glu³⁵Arg^{26,34}Lys³⁸-(GAB-GLit)-GLP-1(7-39);
 Val⁸Glu³⁵Arg^{26,34}Lys³⁸-(GAB-GLit)-GLP-1(7-39);
 Val⁸Glu³⁵Arg^{26,34}Lys³⁸-(GAB-GLit)-GLP-1(7-39);
 Val⁸Glu³⁵Arg^{26,34}Lys³⁸-(GAB-GLit)-GLP-1(7-36);
 Val⁸Glu³⁵Arg^{26,34}Lys³⁸-(GAB-GLit)-GLP-1(7-36);
 Val⁸Glu³⁵Arg^{26,34}Lys³⁸-(GAB-GLit)-GLP-1(7-36);
 Val⁸Glu³⁵Arg^{26,34}Lys³⁸-(GAB-GLit)-GLP-1(7-36);
 Val⁸Glu³⁵Arg^{26,34}Lys³⁸-(GAB-GLit)-GLP-1(7-38);
 Val⁸Glu³⁵Arg^{26,34}Lys³⁹-(GAB-GLit)-GLP-1(7-38);
- Gly⁸Asp³⁵Arg^{28,34}Lys³⁶-(GAB-GLit)-GLP-1(7-36); Gly⁸Asp³⁵Arg^{28,34}Lys³⁶-(GAB-GLit)-GLP-1(7-36)amide; Gly⁸Asp³⁶Arg^{28,34}Lys³⁷-(GAB-GLit)-GLP-1(7-37); Gly⁸Asp³⁵Arg^{28,34}Lys³⁸-(GAB-GLit)-GLP-1(7-38); Gly⁸Asp³⁸Arg^{26,34}Lys³⁹-(GAB-GLit)-GLP-1(7-39); Gly⁸Asp³⁵Arg^{26,34}Lys³⁸-(GAB-GLit)-GLP-1(7-36); Gly⁸Asp³⁵Arg^{28,34}Lys³⁶-(GAB-GLit)-GLP-1(7-36)amide; Gly⁸Asp³⁶Arg^{26,34}Lys³⁷-(GAB-GLit)-GLP-1(7-37); Gly⁸Asp³⁷Arg^{28,34}Lys³⁸-(GAB-GLit)-GLP-1(7-38);

GLit)-GLP-1(7-38); Val⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(GAB-GLit)-GLP-1(7-38); Arg^{26,34}Lys²³-(GAB-GLit)-GLP-1(7-36); Arg^{26,34}Lys²³-(GAB-GLit)-GLP-1(7-37); Arg^{26,34}Lys²³-(GAB-GLit)-GLP-1(7-38);

- GLit)-GLP-1(7-38); Gly⁶Asp¹⁷Arg^{26,34}Lys²⁷-(GAB-GLit)-GLP-1(7-38);

 Arg^{26,34}Lys¹⁸-(GAB-GLit)-GLP-1(7-36);

 Arg^{26,34}Lys¹⁸-(GAB-GLit)-GLP-1(7-37);

 Arg^{26,34}Lys¹⁸-(GAB-GLit)-GLP-1(7-37);

 Val⁶Asp¹⁹Arg^{26,34}Lys¹⁸-(GAB-GLit)-GLP-1(7-36);

 Val⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(GAB-GLit)-GLP-1(7-36);

 Val⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(GAB-GLit)-GLP-1(7-36);

 Val⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(GAB-GLit)-GLP-1(7-36)amide;

 Val⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(GAB-GLit)-GLP-1(7-36)amide;

 Val⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(GAB-GLit)-GLP-1(7-36)amide;

 Val⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(GAB-GLit)-GLP-1(7-36)amide;
- 15
 Arg^{26,34}Lys²³-(GAB-GLit)-GLP-1(7-36);
 Arg^{26,34}Lys²³-(GAB-GLit)-GLP-1(7-36)amide;

 15
 Arg^{26,34}Lys²³-(GAB-GLit)-GLP-1(7-36);
 Arg^{26,34}Lys²³-(GAB-GLit)-GLP-1(7-36)amide;

 15
 Arg^{26,34}Lys²³-(GAB-GLit)-GLP-1(7-36);
 Arg^{26,34}Lys²³-(GAB-GLit)-GLP-1(7-38);

 15
 Arg^{26,34}Lys²³-(GAB-GLit)-GLP-1(7-36);
 Arg^{26,34}Lys²³-(GAB-GLit)-GLP-1(7-38);

 15
 Arg^{26,34}Lys²³-(GAB-GLit)-GLP-1(7-36);
 Arg^{26,34}Lys²³-(GAB-GLit)-GLP-1(7-36);

 16
 Gly⁸Asp¹⁹Arg^{26,34}Lys²³-(GAB-GLit)-GLP-1(7-36)amide;
 Gly⁸Asp¹⁷Arg^{26,34}Lys²³-(GAB-GLit)-GLP-1(7-36);

 17-36)amide;
 Gly⁸Asp¹⁹Arg^{26,34}Lys²³-(GAB-GLit)-GLP-1(7-37);
 Gly⁸Asp¹⁹Arg^{26,34}Lys²³-(GAB-GLit)-GLP-1(7-37);
- 10 Arg^{26,34}Lys¹⁸-(GAB-GLit)-GLP-1(7-37); Arg^{26,34}Lys¹⁸-(GAB-GLit)-GLP-1(7-38); Gly⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(GAB-GLit)-GLP-1(7-36); Gly⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(GAB-GLit)-GLP-1(7-36); Gly⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(GAB-GLit)-GLP-1(7-36)amide; Gly⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(GAB-GLit)-GLP-1(7-37); Gly⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(GAB-GLit)-GLP-1(7-37); Gly⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(GAB-GLit)-GLP-1(7-38); GLP-1(7-38); Gly⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(GAB-GLit)-GLP-1(7-38);
- Thr^aAsp³⁶Arg^{26,34}Lys³⁷-(GAB-GLit)-GLP-1(7-37); Thr^aAsp³⁷Arg^{26,34}Lys³⁸-(GAB-GLit)-GLP-1(7-38); Thr^aAsp³⁸Arg^{26,34}Lys³⁹-(GAB-GLit)-GLP-1(7-39); Arg^{26,34}Lys¹⁸-(GAB-GLit)-GLP-1(7-36); Arg^{26,34}Lys¹⁸-(GAB-GLit)-GLP-1(7-36);
- (GAB-GLit)-GLP-1(7-39); Thr⁸Asp³⁵Arg^{28,34}Lys³⁹-(GAB-GLit)-GLP-1(7-36); Thr⁸Asp³⁵Arg^{28,34}Lys³⁹-(GAB-GLit)-GLP-1(7-36); Thr⁸Asp³⁵Arg^{28,34}Lys³⁹-(GAB-GLit)-GLP-1(7-37); Thr⁸Asp³⁵Arg^{28,34}Lys³⁹-(GAB-GLit)-5
 GLP-1(7-38); Thr⁹Asp³⁸Arg^{28,34}Lys³⁹-(GAB-GLit)-GLP-1(7-39); Thr⁸Asp³⁵Arg^{28,34}Lys³⁶-(GAB-GLit)-GLP-1(7-36); Thr⁸Asp³⁵Arg^{26,34}Lys³⁶-(GAB-GLit)-GLP-1(7-36); Thr⁸Asp³⁵Arg^{26,34}Lys³⁶-(GAB-GLit)-GL^{26,34}Lys³⁶-(GAB-GLit)-GL^{26,34}Lys³⁶-(GAB-GLit)-GL^{26,34}Lys³⁶-(GAB-GLit)-GL^{26,34}Lys³⁶-(GAB-GLit)-GL^{26,34}Lys³⁶-(GAB-GLi

(GAB-GLit)-GLP-1(7-37); Thr^aGlu³⁷Arg^{28,34}Lys³⁸-(GAB-GLit)-GLP-1(7-38); Thr^aGlu³⁸Arg^{26,34}Lys³⁹-

- Arg^{26,34}Lys¹⁸-(GAB-GLit)-GLP-1(7-36);
 Arg^{26,34}Lys¹⁸-(GAB-GLit)-GLP-1(7-36)amide;

 30
 Arg^{26,34}Lys¹⁸-(GAB-GLit)-GLP-1(7-37);
 Arg^{26,34}Lys¹⁸-(GAB-GLit)-GLP-1(7-38);

 Thr⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(GAB-GLit)-GLP-1(7-36);
 Thr⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(GAB-GLit)-GLP-1(7-36);

 Thr⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(GAB-GLit)-GLP-1(7-36);
 Thr⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(GAB-GLit)-GLP-1(7-36);

 Thr⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(GAB-GLit)-GLP-1(7-36)amide;
 Thr⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(GAB-GLit)-GLP-1(7-36);

 1(7-36)amide;
 Thr⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(GAB-GLit)-GLP-1(7-37);
 Thr⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(GAB-GLit)-GLP-1(7-37);

 GLit)-GLP-1(7-38);
 Thr⁸Asp¹⁷Arg^{26,34}Lys¹⁸-(GAB-GLit)-GLP-1(7-38);
 CAB-GLit)-GLP-1(7-38);
- Arg^{26,34}Lys²⁷-(GAB-GLit)-GLP-1(7-36);
 Arg^{26,34}Lys²⁷-(GAB-GLit)-GLP-1(7-38);

 25
 Ser⁸Asp¹⁹Arg^{26,34}Lys²⁷-(GAB-GLit)-GLP-1(7-36);
 Ser⁸Asp¹⁷Arg^{26,34}Lys²⁷-(GAB-GLit)-GLP-1(7-38);

 25
 Ser⁸Asp¹⁹Arg^{26,34}Lys²⁷-(GAB-GLit)-GLP-1(7-36);
 Ser⁸Asp¹⁷Arg^{26,34}Lys²⁷-(GAB-GLit)-GLP-1(7-38);

 26
 Ser⁸Asp¹⁹Arg^{26,34}Lys²⁷-(GAB-GLit)-GLP-1(7-36)amide;
 Ser⁸Asp¹⁹Arg^{26,34}Lys²⁷-(GAB-GLit)-GLP-1(7-38);

 27
 GAB-GLit)-GLP-1(7-38);
 Ser⁸Asp¹⁹Arg^{26,34}Lys²⁷-(GAB-GLit)-GLP-1(7-37);
 Ser⁸Asp¹⁹Arg^{26,34}Lys²⁷-(GAB-GLit)-GLP-1(7-38);

 28
 Ser⁸Asp¹⁹Arg^{26,34}Lys²⁷-(GAB-GLit)-GLP-1(7-38);
 Ser⁸Asp¹⁹Arg^{26,34}Lys²⁷-(GAB-GLit)-GLP-1(7-38);
- Arg^{26,34}Lys²³-(GAB-GLit)-GLP-1(7-37);
 Arg^{26,34}Lys²³-(GAB-GLit)-GLP-1(7-38);

 Ser⁸Asp¹⁹Arg^{26,34}Lys²³-(GAB-GLit)-GLP-1(7-36);
 Ser⁸Asp¹⁷Arg^{26,34}Lys²³-(GAB-GLit)-GLP-1(7-36);

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 36);
 Ser⁸Asp¹⁹Arg^{26,34}Lys²³-(GAB-GLit)-GLP-1(7-36)amide;

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 36);
 Ser⁸Asp¹⁹Arg^{26,34}Lys²³-(GAB-GLit)-GLP-1(7-36)amide;

 20
 36);
 Ser⁸Asp¹⁹Arg^{26,34}Lys²³-(GAB-GLit)-GLP-1(7-36)amide;

 20
 36);
 Ser⁸Asp¹⁹Arg^{26,34}Lys²³-(GAB-GLit)-GLP-1(7-36)amide;

 21
 36);
 Ser⁸Asp¹⁹Arg^{26,34}Lys²³-(GAB-GLit)-GLP-1(7-36)amide;

 22
 36);
 Ser⁸Asp¹⁹Arg^{26,34}Lys²³-(GAB-GLit)-GLP-1(7-36)amide;

 23
 Ser⁸Asp¹⁹Arg^{26,34}Lys²³-(GAB-GLit)-GLP-1(7-37);
 Ser⁸Asp¹⁹Arg^{26,34}Lys²³-(GAB-GLit)-GLP-1(7-38);

 24
 GAB-GLit)-GLP-1(7-38);
 Ser⁸Asp¹⁷Arg^{26,34}Lys²³-(GAB-GLit)-GLP-1(7-38);

 25
 Arg^{26,34}Lys²⁷-(GAB-GLit)-GLP-1(7-36);
 Arg^{26,34}Lys²⁷-(GAB-GLit)-GLP-1(7-36)amide;
- 15
 GLP-1(7-36)amide;
 Ser⁸Asp¹⁹Arg^{26,34}Lys¹⁸-(GAB-GLit)-GLP-1(7-37);
 Ser⁸Asp¹⁹Arg^{26,34}Lys¹⁰- (GAB-GLit)-GLP-1(7-38);

 (GAB-GLit)-GLP-1(7-38);
 Ser⁸Asp¹⁰Arg^{26,34}Lys²³-(GAB-GLit)-GLP-1(7-36);
 Arg^{26,34}Lys²³-(GAB-GLit)-GLP-1(7-36)amide;

 Arg^{26,34}Lys²³-(GAB-GLit)-GLP-1(7-36);
 Arg^{26,34}Lys²³-(GAB-GLit)-GLP-1(7-36)amide;

 Ser⁸Asp¹⁹Arg^{26,34}Lys²³-(GAB-GLit)-GLP-1(7-36);
 Ser⁸Asp¹⁷Arg^{26,34}Lys²³-(GAB-GLit)-GLP-1(7-38);
- 5 Arg^{28,34}Lys²⁷-(GAB-GLit)-GLP-1(7-36); Arg^{28,34}Lys²⁷-(GAB-GLit)-GLP-1(7-36)amide; Arg^{28,34}Lys²⁷-(GAB-GLit)-GLP-1(7-37); Arg^{28,34}Lys²⁷-(GAB-GLit)-GLP-1(7-38); Val⁸Asp¹⁹Arg^{28,34}Lys²⁷-(GAB-GLit)-GLP-1(7-36); Val⁸Asp¹⁷Arg^{28,34}Lys²⁷-(GAB-GLit)-GLP-1(7-36); Val⁸Asp¹⁹Arg^{28,34}Lys²⁷-(GAB-GLit)-GLP-1(7-36); Val⁸Asp¹⁹Arg^{28,34}Lys²⁷-(GAB-GLit)-GLP-1(7-37); Val⁸Asp¹⁹Arg^{28,34}Lys²⁷-(GAB-GLit)-GLP-1(7-37)
- Val⁸Asp¹⁹Arg^{28,34}Lys²³-(GAB-GLit)-GLP-1(7-36); Val⁸Asp¹⁷Arg^{28,34}Lys²³-(GAB-GLit)-GLP-1(7-36); Val⁸Asp¹⁹Arg^{28,34}Lys²³-(GAB-GLit)-GLP-1(7-36)amide; Val⁸Asp¹⁹Arg^{28,34}Lys²³-(GAB-GLit)-GLP-1(7-37); Val⁸Asp¹⁹Arg^{28,34}Lys²³-(GAB-GLit)-GLP-1(7-37); Val⁸Asp¹⁹Arg^{28,34}Lys²³-(GAB-GLit)-GLP-1(7-38); Val⁸Asp¹⁷Arg^{28,34}Lys²³-(GAB-GLit)-GLP-1(7-38);

 Arg²⁶Lys^{23,34}-bis-(Glut-ADod)-GLP-1(7-39); Arg³⁴Lys^{23,26}-bis-(Glut-ADod)-GLP-1(7-39);

 Arg²⁶Lys^{27,34}-bis-(Glut-ADod)-GLP-1(7-36);

 30
 Arg²⁶Lys^{27,34}-bis-(Glut-ADod)-GLP-1(7-37);

 Arg²⁶Lys^{27,34}-bis-(Glut-ADod)-GLP-1(7-37);

 Arg²⁶Lys^{27,34}-bis-(Glut-ADod)-GLP-1(7-38);

 Arg²⁶Lys^{27,34}-bis-(Glut-ADod)-GLP-1(7-38);

 Arg²⁶Lys^{27,34}-bis-(Glut-ADod)-GLP-1(7-39);

 Arg²⁶Lys^{27,34}-bis-(Glut-ADod)-GLP-1(7-39);

 Arg²⁶Lys^{27,34}-bis-(Glut-ADod)-GLP-1(7-39);

 Arg²⁶Lys^{26,34}-bis-(Glut-ADod)-GLP-1(7-36);

 Gly⁸Lys^{26,34}-bis-(Glut-ADod)-GLP-1(7-38);

 Gly⁸Lys^{26,34}-bis-(Glut-ADod)-GLP-1(7-38);

 Gly⁸Lys^{26,34}-bis-(Glut-ADod)-GLP-1(7-38);

 Arg²⁶Lys^{18,34}-bis-(Glut-ADod)-GLP-1(7-36);
 Arg³⁴Lys^{18,28}-bis-(Glut-ADod)-GLP-1(7-36);

 Arg²⁶Lys^{18,34}-bis-(Glut-ADod)-GLP-1(7-37);
 Arg³⁴Lys^{18,28}-bis-(Glut-ADod)-GLP-1(7-37);

 Arg²⁶Lys^{18,34}-bis-(Glut-ADod)-GLP-1(7-38);
 Arg³⁴Lys^{18,28}-bis-(Glut-ADod)-GLP-1(7-38);

 Arg²⁶Lys^{18,34}-bis-(Glut-ADod)-GLP-1(7-38);
 Arg³⁴Lys^{18,28}-bis-(Glut-ADod)-GLP-1(7-38);

 Arg²⁶Lys^{18,34}-bis-(Glut-ADod)-GLP-1(7-39); Arg³⁴Lys^{18,28}-bis-(Glut-ADod)-GLP-1(7-39);
 Arg³⁴Lys^{23,28}-bis-(Glut-ADod)-GLP-1(7-38);

 25
 Arg²⁶Lys^{23,34}-bis-(Glut-ADod)-GLP-1(7-36);
 Arg³⁴Lys^{23,28}-bis-(Glut-ADod)-GLP-1(7-36);

 Arg²⁶Lys^{23,34}-bis-(Glut-ADod)-GLP-1(7-37);
 Arg³⁴Lys^{23,28}-bis-(Glut-ADod)-GLP-1(7-37);

- Arg²⁶Lys^{34,36}-bis-(Glut-ADod)-GLP-1(7-36);
 Arg³⁴Lys^{28,36}-bis-(Glut-ADod)-GLP-1(7-36);

 Arg²⁶Lys^{34,36}-bis-(Glut-ADod)-GLP-1(7-37);
 Arg³⁴Lys^{28,35}-bis-(Glut-ADod)-GLP-1(7-37);

 Arg²⁶Lys^{34,37}-bis-(Glut-ADod)-GLP-1(7-37);
 Arg³⁴Lys^{26,37}-bis-(Glut-ADod)-GLP-1(7-37);

 Arg²⁶Lys^{34,39}-bis-(Glut-ADod)-GLP-1(7-39);
 Arg³⁴Lys^{26,39}-bis-(Glut-ADod)-GLP-1(7-39);

 20
 Arg^{26,34}Lys^{36,39}-bis-(Glut-ADod)-GLP-1(7-39);
- Other preferred derivatives of GLP-1 analogs of the present invention are: Lys^{28,34}-bis-(Glut-ADod)-GLP-1(7-36); Lys^{28,34}-bis-(Glut-ADod)-GLP-1(7-37); Lys^{26,34}-bis-(Glut-ADod)-GLP-1(7-38); Lys^{28,34}-bis-(Glut-ADod)-GLP-1(7-39)

 Arg^{28,34}Lys²⁷-(GAB-GLit)-GLP-1(7-37);
 Arg^{28,34}Lys²⁷-(GAB-GLit)-GLP-1(7-38);

 Thr⁸Asp¹⁹Arg^{26,34}Lys²⁷-(GAB-GLit)-GLP-1(7-36); Thr⁸Asp¹⁷Arg^{26,34}Lys²⁷-(GAB-GLit)-GLP-1(7-36);

 10
 Thr⁸Asp¹⁹Arg^{28,34}Lys²⁷-(GAB-GLit)-GLP-1(7-36)amide;

 11
 Thr⁸Asp¹⁹Arg^{28,34}Lys²⁷-(GAB-GLit)-GLP-1(7-36)amide;

 12
 Thr⁸Asp¹⁹Arg^{28,34}Lys²⁷-(GAB-GLit)-GLP-1(7-36)amide;

 13
 Thr⁸Asp¹⁹Arg^{28,34}Lys²⁷-(GAB-GLit)-GLP-1(7-36)amide;

 14
 Thr⁸Asp¹⁹Arg^{28,34}Lys²⁷-(GAB-GLit)-GLP-1(7-37);

 15
 Thr⁸Asp¹⁹Arg^{28,34}Lys²⁷-(GAB-GLit)-GLP-1(7-37);

 16
 Thr⁸Asp¹⁹Arg^{28,34}Lys²⁷-(GAB-GLit)-GLP-1(7-37);

 17
 Thr⁸Asp¹⁹Arg^{28,34}Lys²⁷-(GAB-GLit)-GLP-1(7-38);

 Arg^{26,34}Lys²³-(GAB-GLit)-GLP-1(7-37);
 Arg^{26,34}Lys²³-(GAB-GLit)-GLP-1(7-38);

 Thr⁸Asp¹⁹Arg^{26,34}Lys²³-(GAB-GLit)-GLP-1(7-36);
 Thr⁸Asp¹⁷Arg^{26,34}Lys²³-(GAB-GLit)-GLP-1(7-36);

 Thr⁸Asp¹⁹Arg^{26,34}Lys²³-(GAB-GLit)-GLP-1(7-36);
 Thr⁸Asp¹⁷Arg^{26,34}Lys²³-(GAB-GLit)-GLP-1(7-36);

 Thr⁸Asp¹⁹Arg^{26,34}Lys²³-(GAB-GLit)-GLP-1(7-36);
 Thr⁸Asp¹⁷Arg^{26,34}Lys²³-(GAB-GLit)-GLP-1(7-36);

 Thr⁸Asp¹⁹Arg^{26,34}Lys²³-(GAB-GLit)-GLP-1(7-37);
 Thr⁸Asp¹⁹Arg^{26,34}Lys²³-(GAB-GLit)-GLP-1(7-37);

 GLit)-GLP-1(7-38);
 Thr⁸Asp¹⁷Arg^{28,34}Lys²³-(GAB-GLit)-GLP-1(7-38);

Arg^{26,34}Lys²³-(GAB-GLit)-GLP-1(7-36);

Arg^{26,34}Lys²⁷-(GAB-GLit)-GLP-1(7-36);

Arg²⁶Lys^{23,34}-bis-(Glut-ADod)-GLP-1(7-38);

Arg26.34 Lys23-(GAB-GLit)-GLP-1(7-36)amide;

Arg^{26,34}Lys²⁷-(GAB-GLit)-GLP-1(7-36)amide;

Arg³⁴Lys^{23,26}-bis-(Glut-ADod)-GLP-1(7-38);

 Thr⁸Arg²⁶Lys^{34,37}-bis-(Glut-ADod)-GLP-1(7-37);
 Thr⁸Arg³⁴Lys^{26,37}-bis-(Glut-ADod)-GLP-1(7-37);

 Thr⁸Arg²⁶Lys^{34,38}-bis-(Glut-ADod)-GLP-1(7-38);
 Thr⁸Arg³⁴Lys^{26,38}-bis-(Glut-ADod)-GLP-1(7-38);

 Thr⁸Arg^{26,34}Lys^{36,38}-bis-(Glut-ADod)-GLP-1(7-38);
 Thr⁸Arg²⁶Lys^{34,39}-bis-(Glut-ADod)-GLP-1(7-38);

 Thr⁸Arg^{26,34}Lys^{36,38}-bis-(Glut-ADod)-GLP-1(7-38);
 Thr⁸Arg^{26,34}Lys^{36,39}-bis-(Glut-ADod)-GLP-1(7-39);

 Thr⁸Arg³⁴Lys^{26,39}-bis-(Glut-ADod)-GLP-1(7-39);
 Thr⁸Arg^{26,34}Lys^{36,39}-bis-(Glut-ADod)-GLP-1(7-39);

25 Thr⁸Lys^{26,34}-bis-(Glut-ADod)-GLP-1(7-36); Thr⁸Lys^{26,34}-bis-(Glut-ADod)-GLP-1(7-37); Thr⁸Lys^{26,34}-bis-(Glut-ADod)-GLP-1(7-38); Thr⁸Lys^{26,34}-bis-(Glut-ADod)-GLP-1(7-39)
 25 Thr⁸Arg²⁶Lys^{34,36}-bis-(Glut-ADod)-GLP-1(7-36); Thr⁸Arg²⁶Lys^{34,36}-bis-(Glut-ADod)-GLP-1(7-37); Thr⁸Arg²⁶Lys^{34,36}-bis-(Glut-ADod)-GLP-1(7-37); Thr⁸Arg²⁶Lys^{34,36}-bis-(Glut-ADod)-GLP-1(7-37); Thr⁸Arg²⁶Lys^{34,38}-bis-(Glut-ADod)-GLP-1(7-37); Thr⁸Arg²⁶Lys^{34,38}-bis-(Glut-ADod)-GLP-1(7-37); Thr⁸Arg²⁶Lys^{26,38}-bis-(Glut-ADod)-GLP-1(7-37);
 30 Thr⁸Arg²⁶Lys^{34,38}-bis-(Glut-ADod)-GLP-1(7-38); Thr⁸Arg³⁴Lys^{26,38}-bis-(Glut-ADod)-GLP-1(7-38);

- Ser⁸Arg²⁸Lys^{34,38}-bis-(Glut-ADod)-GLP-1(7-36); Ser⁸Arg³⁴Lys^{26,38}-bis-(Glut-ADod)-GLP-1(7-36); Ser⁸Arg²⁶Lys^{34,36}-bis-(Glut-ADod)-GLP-1(7-37); Ser⁸Arg³⁴Lys^{26,37}-bis-(Glut-ADod)-GLP-1(7-37);
 Ser⁸Arg²⁶Lys^{34,38}-bis-(Glut-ADod)-GLP-1(7-37); Ser⁸Arg³⁴Lys^{26,37}-bis-(Glut-ADod)-GLP-1(7-37); Ser⁸Arg²⁶Lys^{34,38}-bis-(Glut-ADod)-GLP-1(7-38); Ser⁸Arg²⁶Lys^{34,38}-bis-(Glut-ADod)-GLP-1(7-38); Ser⁸Arg²⁶Lys^{34,38}-bis-(Glut-ADod)-GLP-1(7-38); Ser⁸Arg²⁶Lys^{34,38}-bis-(Glut-ADod)-GLP-1(7-38); Ser⁸Arg²⁶Lys^{34,39}-bis-(Glut-ADod)-GLP-1(7-38); Ser⁸Arg²⁶Lys^{34,39}-bis-(Glut-ADod)-GLP-1(7-38); Ser⁸Arg²⁶Lys^{34,39}-bis-(Glut-ADod)-GLP-1(7-39); Ser⁸Arg²⁶Lys^{36,39}-bis-(Glut-ADod)-GLP-1(7-39); Ser⁸Arg^{26,34}Lys^{36,39}-bis-(Glut-ADod)-GLP-1(7-39); Ser⁸Arg³⁴Lys^{36,39}-bis-(Glut-ADod)-GLP-1(7-39); Ser⁸Arg³⁴Lys^{36,39}-bis-(Glut-ADod)-GLP-1(7-39); Ser⁸Arg³⁴Lys^{36,39}-bis-(Glut-ADod)-GLP-1(7-39);
- Val⁸Arg²⁶Lys^{34,36}-bis-(Glut-ADod)-GLP-1(7-38); Val⁹Arg³⁴Lys^{26,38}-bis-(Glut-ADod)-GLP-1(7-36);
 Val⁸Arg²⁶Lys^{34,36}-bis-(Glut-ADod)-GLP-1(7-37);
 Val⁸Arg²⁶Lys^{34,37}-bis-(Glut-ADod)-GLP-1(7-37);
 Val⁸Arg²⁶Lys^{34,37}-bis-(Glut-ADod)-GLP-1(7-37);
 Val⁸Arg²⁶Lys^{34,38}-bis-(Glut-ADod)-GLP-1(7-37);
 Val⁸Arg²⁶Lys^{34,38}-bis-(Glut-ADod)-GLP-1(7-37);
 Val⁸Arg²⁶Lys^{34,38}-bis-(Glut-ADod)-GLP-1(7-37);
 Val⁸Arg^{26,34}-bis-(Glut-ADod)-GLP-1(7-38);
 Val⁸Arg^{26,34}-bis-(Glut-ADod)-GLP-1(7-38);
 Val⁸Arg^{26,34}-bis-(Glut-ADod)-GLP-1(7-38);
 Val⁸Arg^{26,34}-bis-(Glut-ADod)-GLP-1(7-38);
 Val⁸Arg^{26,34}-bis-(Glut-ADod)-GLP-1(7-39);
 Val⁸Arg³⁴Lys^{26,39}-bis-(Glut-ADod)-GLP-1(7-39);
 Val⁸Arg³⁴Lys^{26,34}-bis-(Glut-ADod)-GLP-1(7-39);
 Val⁸Arg³⁴Lys^{26,34}-bis-(Glut-ADod)-GLP-1(7-38);
 Val⁸Arg^{26,34}-bis-(Glut-ADod)-GLP-1(7-39);
 Val⁸Arg³⁴Lys^{26,34}-bis-(Glut-ADod)-GLP-1(7-37);

Ser⁸Lys^{26,34}-bis-(Glut-ADod)-GLP-1(7-38); Ser⁸Lys^{26,34}-bis-(Glut-ADod)-GLP-1(7-39)

1(7-39); Val[®]Lys^{26,34}-bis-(Glut-ADod)-GLP-1(7-36); Val[®]Lys^{26,34}-bis-(Glut-ADod)-GLP-1(7-37); Val[®]Lys^{26,34}-bis-(Glut-ADod)-GLP-1(7-39)

Gly⁸Arg²⁶Lys^{34,38}-bis-(Glut-ADod)-GLP-1(7-36); Gly⁸Arg³⁴Lys^{28,39}-bis-(Glut-ADod)-GLP-1(7-36); Gly⁸Arg²⁶Lys^{34,35}-bis-(Glut-ADod)-GLP-1(7-37); Gly⁸Arg²⁶Lys^{28,37}-bis-(Glut-ADod)-GLP-1(7-37); Gly⁸Arg²⁶Lys^{34,37}-bis-(Glut-ADod)-GLP-1(7-37); Gly⁸Arg²⁶Lys^{34,38}-bis-(Glut-ADod)-GLP-1(7-37); Gly⁸Arg²⁶Lys^{34,38}-bis-(Glut-ADod)-GLP-1(7-38); Gly⁸Arg²⁶Lys^{34,39}-bis-(Glut-ADod)-GLP-1(7-38); Gly⁸Arg²⁶Lys^{34,39}-bis-(Glut-ADod)-GLP-1(7-38); Gly⁸Arg²⁸Lys^{38,38}-bis-(Glut-ADod)-GLP-1(7-38); Gly⁸Arg²⁸Lys^{34,39}-bis-(Glut-ADod)-GLP-1(7-39); Gly⁸Arg^{26,34}Lys^{36,39}-bis-(Glut-ADod)-GLP-1(7-39); Gly⁸Arg^{36,39}-bis-(Glut-ADod)-GLP-1(7-39); Gly⁸Arg^{36,39}-bis-(Glut-ADod)-GLP-1(7-39); Gly⁸Arg^{36,39}-bis-(Glut-ADod)-GLP-1(7-39); Gly⁸Arg^{36,39}-bis-(Glut-ADod)-GLP-1(7-39); Gly⁸-Glat-ADod)-GLP-1(7-30); Gly⁸-Glat-ADod)-GLP-1(7-30); Gly⁸-Glat-ADOd)-GLP-1(7-30); Glat-ADOd)-GLP-1(7-30); Glat-ADOd)-GLP-1(7-30); Glat-

Arg²⁶Lys^{23,34}-bis-(Glut-ATet)-GLP-1(7-39); Arg³⁴Lys^{23,26}-bis-(Glut-ATet)-GLP-1(7-39); 15 Arg³⁴Lys^{27,26}-bis-(Glut-ATet)-GLP-1(7-36); Arg²⁶Lys^{27,34}-bis-(Glut-ATet)-GLP-1(7-36); Arg³⁴Lvs^{27,26}-bis-(Glut-ATet)-GLP-1(7-37); Arg²⁶Lys^{27,34}-bis-(Glut-ATet)-GLP-1(7-37); Arg³⁴Lys^{27,26}-bis-(Glut-ATet)-GLP-1(7-38); Arg²⁶Lys^{27,34}-bis-(Glut-ATet)-GLP-1(7-38); Arg²⁶Lys^{27,34}-bis-(Glut-ATet)-GLP-1(7-39); Arg³⁴Lys^{27,26}-bis-(Glut-ATet)-GLP-1(7-39); Gly⁸Lys^{26,34}-bis-(Glut-ATet)-GLP-1(7-36); Gly⁸Lys^{26,34}-bis-(Glut-ATet)-GLP-1(7-37); Gly⁸Lys^{26,34}-20 bis-(Glut-ATet)-GLP-1(7-38); Gly⁸Lys^{26,34}-bis-(Glut-ATet)-GLP-1(7-39) Gly⁸Arg³⁴Lys^{26,36}-bis-(Glut-ATet)-GLP-1(7-36): Gly8Arg28Lys34.36-bis-(Glut-ATet)-GLP-1(7-36); Gly⁸Arg³⁴Lys^{26,38}-bis-(Glut-ATet)-GLP-1(7-37); Gly⁸Arg²⁶Lys^{34,36}-bis-(Glut-ATet)-GLP-1(7-37); Gly⁸Arg³⁴Lys^{26,37}-bis-(Glut-ATet)-GLP-1(7-37); Gly⁸Arg²⁶Lys^{34,37}-bis-(Glut-ATet)-GLP-1(7-37); Glv⁸Arg³⁴Lys^{26,38}-bis-(Glut-ATet)-GLP-1(7-38); Gly⁸Arg²⁶Lys^{34,38}-bis-(Glut-ATet)-GLP-1(7-38); 25 Gly⁸Arg²⁶Lys^{34,39}-bis-(Glut-ATet)-GLP-1(7-39); Gly⁸Arg^{26,34}Lys^{36,38}-bis-(Glut-ATet)-GLP-1(7-38); Gly⁸Arg³⁴Lys^{28,39}-bis-(Glut-ATet)-GLP-1(7-39); Gly⁸Arg^{28,34}Lys^{36,39}-bis-(Glut-ATet)-GLP-1(7-39); Val⁸Lys^{26,34}-bis-(Glut-ATet)-GLP-1(7-36); Val⁸Lys^{26,34}-bis-(Glut-ATet)-GLP-1(7-37); Val⁸Lys^{28,34}bis-(Glut-ATet)-GLP-1(7-38); Vat⁸Lys^{26,34}-bis-(Glut-ATet)-GLP-1(7-39) Val⁸Arg³⁴Lys^{26,36}-bis-(Glut-ATet)-GLP-1(7-36); Val⁸Arg²⁶Lys^{34,36}-bis-(Glut-ATet)-GLP-1(7-36); 30 Val⁸Arg³⁴Lys^{26,36}-bis-(Glut-ATet)-GLP-1(7-37); Val⁸Arg²⁶Lys^{34,36}-bis-(Glut-ATet)-GLP-1(7-37); Val⁸Ard³⁴Lys^{26,37}-bis-(Glut-ATet)-GLP-1(7-37); Val⁸Arg²⁶Lvs^{34,37}-bis-(Glut-ATet)-GLP-1(7-37);

Arg³⁴Lys^{26,36}-bis-(Glut-ATet)-GLP-1(7-37); Arg²⁶Lys^{34,36}-bis-(Glut-ATet)-GLP-1(7-37); Arg³⁴Lys^{26,37}-bis-(Glut-ATet)-GLP-1(7-37); Arg²⁶Lys^{34,37}-bis-(Glut-ATet)-GLP-1(7-37); 5 Arg³⁴Lys^{26,39}-bis-(Glut-ATet)-GLP-1(7-39); Arg²⁶Lys^{34,39}-bis-(Glut-ATet)-GLP-1(7-39); Arg^{26,34}Lys^{38,39}-bis-(Glut-ATet)-GLP-1(7-39); Arg³⁴Lvs^{18,26}-bis-(Glut-ATet)-GLP-1(7-36); Arg²⁶Lys^{18,34}-bis-(Glut-ATet)-GLP-1(7-36); Arg³⁴Lys^{18,28}-bis-(Glut-ATet)-GLP-1(7-37); Ara26Lvs18,34-bis-(Glut-ATet)-GLP-1(7-37); Arg³⁴Lys^{18,26}-bis-(Glut-ATet)-GLP-1(7-38); Arg²⁶Lys^{18,34}-bis-(Glut-ATet)-GLP-1(7-38); 10 Arg²⁶Lys^{18,24}-bis-(Glut-ATet)-GLP-1(7-39); Arg³⁴Lys^{18,26}-bis-(Glut-ATet)-GLP-1(7-39);

155 Lys^{28,34}-bis-(Glut-ATet)-GLP-1(7-36); Lys^{26,34}-bis-(Glut-ATet)-GLP-1(7-37); Lys^{28,34}-bis-(Glut-ATet)-GLP-1(7-38); Lys^{28,34}-bis-(Glut-ATet)-GLP-1(7-39)

Arg26Lys34.36-bis-(Glut-ATet)-GLP-1(7-36);

Arg²⁶Lys^{23,34}-bis-(Glut-ATet)-GLP-1(7-36);

Arg²⁶Lys^{23,34}-bis-(Glut-ATet)-GLP-1(7-37);

Arg28Lvs23,34-bis-(Glut-ATet)-GLP-1(7-38);

Val⁸Arg²⁶Lys^{34,38}-bis-(Glut-ATet)-GLP-1(7-38);

Arg³⁴Lys^{26,36}-bis-(Glut-ATet)-GLP-1(7-36);

Arg³⁴Lys^{23,26}-bis-(Glut-ATet)-GLP-1(7-36);

Arg³⁴Lys^{23,26}-bis-(Glut-ATet)-GLP-1(7-37);

Arg³⁴Lys^{23,26}-bis-(Glut-ATet)-GLP-1(7-38);

Val⁸Arg³⁴Lvs^{26,38}-bis-(Glut-ATet)-GLP-1(7-38);

20		
	Arg ²⁶ Lys ^{18,34} -bis-(Glut-AHex)-GLP-1(7-36);	Arg ³⁴ Lys ^{18,26} -bis-(Glut-AHex)-GLP-1(7-36);
	Arg ²⁸ Lys ^{18,34} -bis-(Glut-AHex)-GLP-1(7-37);	Arg ³⁴ Lys ^{18,26} -bis-(Glut-AHex)-GLP-1(7-37);
	Arg ²⁶ Lys ^{18,34} -bis-(Glut-AHex)-GLP-1(7-38);	Arg ³⁴ Lys ^{18,26} -bis-(Glut-AHex)-GLP-1(7-38);
	Arg ²⁶ Lys ^{18,34} -bis-(Glut-AHex)-GLP-1(7-39); Arg ³⁴	⁴ Lys ^{18,26} -bis-(Glut-AHex)-GLP-1 <u>(</u> 7-39);
30	Arg ²⁶ Lys ^{23,34} -bis-(Glut-AHex)-GLP-1(7-36);	Arg ³⁴ Lys ^{23,26} -bis-(Glut-AHex)-GLP-1(7-36);
	Arg ²⁸ Lys ^{23,34} -bis-(Glut-AHex)-GLP-1(7-37);	Arg ³⁴ Lys ^{23,26} -bis-(Glut-AHex)-GLP-1(7-37);
	Arg ²⁶ Lys ^{23,34} -bis-(Glut-AHex)-GLP-1(7-38);	Arg ³⁴ Lys ^{23,26} -bis-(Glut-AHex)-GLP-1(7-38);
	Ara ²⁶ Lvs ^{23,34} -bis-(Glut-AHex)-GLP-1(7-39); Ara ³	4Lys ^{23,26} -bis-(Glut-AHex)-GLP-1(7-39);

- AHex)-GLP-1(7-38); Lys^{26,34}-bis-(Glut-AHex)-GLP-1(7-39) Arg²⁶Lys^{34,36}-bis-(Glut-AHex)-GLP-1(7-36); Arg²⁶Lys^{34,36}-bis-(Glut-AHex)-GLP-1(7-37); Arg²⁶Lys^{34,37}-bis-(Glut-AHex)-GLP-1(7-37); Arg²⁶Lys^{34,37}-bis-(Glut-AHex)-GLP-1(7-37); Arg²⁶Lys^{34,39}-bis-(Glut-AHex)-GLP-1(7-39);
 Arg²⁶Lys^{34,39}-bis-(Glut-AHex)-GLP-1(7-39);
- Thr⁸Arg²⁶Lys^{34,36}-bis-(Glut-ATet)-GLP-1(7-37);
 Thr⁸Arg³⁴Lys^{26,36}-bis-(Glut-ATet)-GLP-1(7-37);

 15
 Thr⁸Arg²⁶Lys^{34,38}-bis-(Glut-ATet)-GLP-1(7-37);
 Thr⁸Arg³⁴Lys^{26,37}-bis-(Glut-ATet)-GLP-1(7-37);

 15
 Thr⁸Arg²⁶Lys^{34,38}-bis-(Glut-ATet)-GLP-1(7-37);
 Thr⁸Arg³⁴Lys^{26,38}-bis-(Glut-ATet)-GLP-1(7-37);

 15
 Thr⁸Arg²⁶Lys^{34,38}-bis-(Glut-ATet)-GLP-1(7-38);
 Thr⁸Arg³⁴Lys^{26,38}-bis-(Glut-ATet)-GLP-1(7-38);

 Thr⁸Arg²⁶Lys^{34,38}-bis-(Glut-ATet)-GLP-1(7-38);
 Thr⁸Arg²⁶Lys^{34,39}-bis-(Glut-ATet)-GLP-1(7-39);

 Thr⁸Arg³⁴Lys^{26,39}-bis-(Glut-ATet)-GLP-1(7-39);
 Thr⁸Arg^{26,34}-bis-(Glut-ATet)-GLP-1(7-39);

 Thr⁸Arg³⁴Lys^{26,34}-bis-(Glut-ATet)-GLP-1(7-36);
 Lys^{26,34}-bis-(Glut-ATet)-GLP-1(7-39);

 Lys^{26,34}-bis-(Glut-AHex)-GLP-1(7-36);
 Lys^{26,34}-bis-(Glut-AHex)-GLP-1(7-37);
 Lys^{26,34}-bis-(Glut-AHex)-GLP-1(7-37);
- Ser⁸Arg²⁶Lys^{34,36}-bis-(Glut-ATet)-GLP-1(7-37);
 Ser⁸Arg³⁴Lys^{26,37}-bis-(Glut-ATet)-GLP-1(7-37);

 Ser⁸Arg²⁶Lys^{34,37}-bis-(Glut-ATet)-GLP-1(7-37);
 Ser⁸Arg³⁴Lys^{26,37}-bis-(Glut-ATet)-GLP-1(7-37);

 Ser⁸Arg²⁶Lys^{34,38}-bis-(Glut-ATet)-GLP-1(7-38);
 Ser⁸Arg³⁴Lys^{26,38}-bis-(Glut-ATet)-GLP-1(7-38);

 Ser⁸Arg²⁶Lys^{36,38}-bis-(Glut-ATet)-GLP-1(7-38);
 Ser⁸Arg²⁶Lys^{34,39}-bis-(Glut-ATet)-GLP-1(7-39);

 Ser⁸Arg³⁴Lys^{26,39}-bis-(Glut-ATet)-GLP-1(7-39);
 Ser⁸Arg^{26,34}Lys^{36,39}-bis-(Glut-ATet)-GLP-1(7-39);

 Ser⁸Arg³⁴Lys^{26,39}-bis-(Glut-ATet)-GLP-1(7-36);
 Thr⁸Lys^{26,34}-bis-(Glut-ATet)-GLP-1(7-37);

 Thr⁸Lys^{26,34}-bis-(Glut-ATet)-GLP-1(7-36);
 Thr⁸Lys^{26,34}-bis-(Glut-ATet)-GLP-1(7-37);

bis-(Glut-ATet)-GLP-1(7-38); Thr⁸Lys^{26,34}-bis-(Glut-ATet)-GLP-1(7-39)

Val⁸Arg^{28,34}Lys^{38,38}-bis-(Glut-ATet)-GLP-1(7-38); Val⁸Arg²⁶Lys^{34,39}-bis-(Glut-ATet)-GLP-1(7-39); Val⁸Arg^{28,34}Lys^{38,39}-bis-(Glut-ATet)-GLP-1(7-39); Ser⁸Lys^{28,34}-bis-(Glut-ATet)-GLP-1(7-36); Ser⁸Lys^{28,34}-bis-(Glut-ATet)-GLP-1(7-37); Ser⁸Lys^{28,34}-bis-(Glut-ATet)-GLP-1(7-38); Ser⁸Lys^{28,34}-bis-(Glut-ATet)-GLP-1(7-39)

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Ser⁸Arg²⁶Lys^{34,36}-bis-(Glut-ATet)-GLP-1(7-36);

Thr⁸Arg²⁶Lys^{34,36}-bis-(Glut-ATet)-GLP-1(7-36);

Ser⁸Arg³⁴Lys^{26,38}-bis-(Glut-ATet)-GLP-1(7-36);

Thr8Arg34Lys26,36-bis-(Glut-ATet)-GLP-1(7-36);

Thr^aLys^{26,34}-bis-(Glut-AHex)-GLP-1(7-38); Thr^aLys^{26,34}-bis-(Glut-AHex)-GLP-1(7-39) Thr⁸Arg³⁴Lys^{26,38}-bis-(Glut-AHex)-GLP-1(7-36); Thr⁸Arg²⁶Lys^{34,36}-bis-(Glut-AHex)-GLP-1(7-36); Thr⁸Arg³⁴Lys^{26,36}-bis-(Glut-AHex)-GLP-1(7-37); Thr⁸Arg²⁶Lvs^{34,36}-bis-(Glut-AHex)-GLP-1(7-37); Thr⁸Arg³⁴Lys^{26,37}-bis-(Glut-AHex)-GLP-1(7-37); Thr⁸Arg²⁶Lys^{34,37}-bis-(Glut-AHex)-GLP-1(7-37);

- 1(7-39); Thr^aLys^{26,34}-bis-(Glut-AHex)-GLP-1(7-37); Thr⁸Lys^{26,34}-bis-(Glut-AHex)-GLP-1(7-36); 30
- Ser⁸Arg³⁴Lys^{28,36}-bis-(Glut-AHex)-GLP-1(7-36); Ser⁸Arg²⁶Lys^{34,36}-bis-(Glut-AHex)-GLP-1(7-36); Ser⁸Arg³⁴Lys^{26,36}-bis-(Glut-AHex)-GLP-1(7-37); Ser⁸Arg²⁶Lys^{34,38}-bis-(Glut-AHex)-GLP-1(7-37); Ser⁴Arg³⁴Lys^{26,37}-bis-(Glut-AHex)-GLP-1(7-37); Ser⁸Arg²⁶Lys^{34,37}-bis-(Glut-AHex)-GLP-1(7-37); 25 Ser⁸Arg³⁴Lys^{26,38}-bis-(Glut-AHex)-GLP-1(7-38); Ser⁸Arg²⁶Lys^{34,38}-bis-(Glut-AHex)-GLP-1(7-38); Ser⁸Arg²⁶Lys^{34,39}-bis-(Glut-AHex)-GLP-1(7-Ser⁸Arg^{28,34}Lys^{38,38}-bis-(Glut-AHex)-GLP-1(7-38); Ser⁸Arg^{26,34}Lys^{36,39}-bis-(Glut-AHex)-GLP-39); Ser⁸Arg³⁴Lys^{28,39}-bis-(Glut-AHex)-GLP-1(7-39);
- Val⁸Arg³⁴Lys^{26,36}-bis-(Glut-AHex)-GLP-1(7-36): Val⁸Arg²⁶Lys^{34,36}-bis-(Glut-AHex)-GLP-1(7-36); 15 Val⁸Arg³⁴Lys^{26,36}-bis-(Glut-AHex)-GLP-1(7-37); Val⁸Arg²⁶Lys^{34,36}-bis-(Glut-AHex)-GLP-1(7-37); Val⁸Arg³⁴Lys^{28,37}-bis-(Glut-AHex)-GLP-1(7-37); Val⁸Arg²⁶Lvs^{34,37}-bis-(Glut-AHex)-GLP-1(7-37); Val⁸Arg³⁴Lys^{26,38}-bis-(Glut-AHex)-GLP-1(7-38); Val⁸Arg²⁶Lys^{34,38}-bis-(Glut-AHex)-GLP-1(7-38); Val⁸Arg^{26,34}Lys^{36,38}-bis-(Glut-AHex)-GLP-1(7-38); Val⁸Arg²⁶Lys^{34,39}-bis-(Glut-AHex)-GLP-1(7-39); Val⁸Arg³⁴Lys^{26,39}-bis-(Glut-AHex)-GLP-1(7-39); Val⁸Arg^{26,34}Lys^{38,39}-bis-(Glut-AHex)-GLP-1(7-39); 20 Ser⁸Lys^{26,34}-bis-(Glut-AHex)-GLP-1(7-37); Ser^aLys^{26,34}-bis-(Glut-AHex)-GLP-1(7-36);

Ser⁸Lys^{26,34}-bis-(Glut-AHex)-GLP-1(7-38); Ser⁸Lys^{26,34}-bis-(Glut-AHex)-GLP-1(7-39)

- Gly⁸Arg³⁴Lys^{26,36}-bis-(Glut-AHex)-GLP-1(7-37); Gly⁸Arg²⁶Lys^{34,36}-bis-(Glut-AHex)-GLP-1(7-37); Gly⁸Arg²⁶Lys^{34,37}-bis-(Glut-AHex)-GLP-1(7-37); Glv⁸Arg³⁴Lvs^{26,37}-bis-(Glut-AHex)-GLP-1(7-37); Glv⁸Arg³⁴Lys^{26,38}-bis-(Glut-AHex)-GLP-1(7-38); Glv⁸Arg²⁶Lys^{34,38}-bis-(Glut-AHex)-GLP-1(7-38); 10 Gly8Arg26,34Lys38,38-bis-(Glut-AHex)-GLP-1(7-38); Gly8Arg26Lys34,39-bis-(Glut-AHex)-GLP-1(7-39); Gly⁸Arg³⁴Lys^{26,39}-bis-(Glut-AHex)-GLP-1(7-39); Gly⁸Arg^{26,34}Lys^{36,39}-bis-(Glut-AHex)-GLP-1(7-39); Val⁸Lys^{26,34}-bis-(Glut-AHex)-GLP-1(7-36); Val⁸Lys^{26,34}-bis-(Glut-AHex)-GLP-1(7-37); Val⁸Lys^{26,34}bis-(Glut-AHex)-GLP-1(7-38); Val⁸Lys^{26,34}-bis-(Glut-AHex)-GLP-1(7-39)
- Arg³⁴Lys^{27,26}-bis-(Glut-AHex)-GLP-1(7-37); Arg26Lys27,34-bis-(Glut-AHex)-GLP-1(7-37); Arg³⁴Lys^{27,26}-bis-(Glut-AHex)-GLP-1(7-38); Ara26Lvs27.34-bis-(Glut-AHex)-GLP-1(7-38); Arg²⁶Lys^{27,34}-bis-(Glut-AHex)-GLP-1(7-39); Arg³⁴Lys^{27,26}-bis-(Glut-AHex)-GLP-1(7-39); Gly⁸Lys^{26,34}-bis-(Glut-AHex)-GLP-1(7-37); Gly⁸Lys^{26,34}-bis-(Glut-AHex)-GLP-1(7-36); 5 Gly⁸Lys^{26,34}-bis-(Glut-AHex)-GLP-1(7-38); Gly⁸Lys^{26,34}-bis-(Glut-AHex)-GLP-1(7-39) Gly8Arg34Lys26.36-bis-(Glut-AHex)-GLP-1(7-36); Glv⁸Arg²⁶Lys^{34,36}-bis-(Glut-AHex)-GLP-1(7-36);
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Arg²⁶Lys^{27,34}-bis-(Glut-AHex)-GLP-1(7-36);

Arg³⁴Lys^{27,26}-bis-(Glut-AHex)-GLP-1(7-36);

Gly⁸Arg³⁴Lys^{28,39}-bis-(Glut-AOct)-GLP-1(7-38); Gly⁸Arg^{28,34}Lys^{36,39}-bis-(Glut-AOct)-GLP-1(7-39);
 Gly⁸Arg³⁴Lys^{28,34}-bis-(Glut-AOct)-GLP-1(7-36); Val⁸Lys^{28,34}-bis-(Glut-AOct)-GLP-1(7-37); Val⁸Lys^{28,34}-bis-(Glut-AOct)-GLP-1(7-37); Val⁸Lys^{28,34}-bis-(Glut-AOct)-GLP-1(7-39);
 Val⁸Arg²⁶Lys^{34,38}-bis-(Glut-AOct)-GLP-1(7-36); Val⁸Arg³⁴Lys^{28,38}-bis-(Glut-AOct)-GLP-1(7-36);
 Val⁸Arg²⁶Lys^{34,38}-bis-(Glut-AOct)-GLP-1(7-36); Val⁸Arg³⁴Lys^{28,38}-bis-(Glut-AOct)-GLP-1(7-36);
 Val⁸Arg²⁶Lys^{34,38}-bis-(Glut-AOct)-GLP-1(7-37); Val⁸Arg³⁴Lys^{28,38}-bis-(Glut-AOct)-GLP-1(7-37);

Gly⁸Arg²⁶Lys^{34,38}-bis-(Glut-AOct)-GLP-1(7-36);
 Gly⁸Arg²⁶Lys^{26,38}-bis-(Glut-AOct)-GLP-1(7-37);
 Gly⁸Arg²⁶Lys^{34,35}-bis-(Glut-AOct)-GLP-1(7-37);
 Gly⁸Arg²⁶Lys^{34,37}-bis-(Glut-AOct)-GLP-1(7-37);
 Gly⁸Arg²⁶Lys^{34,38}-bis-(Glut-AOct)-GLP-1(7-37);
 Gly⁸Arg²⁶Lys^{34,38}-bis-(Glut-AOct)-GLP-1(7-37);
 Gly⁸Arg²⁶Lys^{34,38}-bis-(Glut-AOct)-GLP-1(7-38);
 Gly⁸Arg²⁶Lys^{34,38}-bis-(Glut-AOct)-GLP-1(7-38);
 Gly⁸Arg²⁶Lys^{34,38}-bis-(Glut-AOct)-GLP-1(7-38);
 Gly⁸Arg²⁶Lys^{34,39}-bis-(Glut-AOct)-GLP-1(7-38);

Arg²⁶Lys^{27,34}-bis-(Glut-AOct)-GLP-1(7-37);
 Arg²⁶Lys^{27,34}-bis-(Glut-AOct)-GLP-1(7-38);
 Arg²⁶Lys^{27,34}-bis-(Glut-AOct)-GLP-1(7-38);
 Arg²⁶Lys^{27,34}-bis-(Glut-AOct)-GLP-1(7-39);
 Arg²⁶Lys^{28,34}-bis-(Glut-AOct)-GLP-1(7-36);
 Gly⁸Lys^{28,34}-bis-(Glut-AOct)-GLP-1(7-36);
 Gly⁸Lys^{28,34}-bis-(Glut-AOct)-GLP-1(7-37);
 Gly⁸Lys^{28,34}-bis-(Glut-AOct)-GLP-1(7-38);
 Gly⁸Lys^{28,34}-bis-(Glut-AOct)-GLP-1(7-37);
 Gly⁸Lys^{28,34}-bis-(Glut-AOct)-GLP-1(7-37);
 Gly⁸Lys^{28,34}-bis-(Glut-AOct)-GLP-1(7-37);

 $Arg^{26}Lys^{23,34}$ -bis-(Glut-AOct)-GLP-1(7-37);
 $Arg^{34}Lys^{23,26}$ -bis-(Glut-AOct)-Gl

 $Arg^{26}Lys^{23,34}$ -bis-(Glut-AOct)-GLP-1(7-38);
 $Arg^{34}Lys^{23,26}$ -bis-(Glut-AOct)-Gl

 $Arg^{26}Lys^{23,34}$ -bis-(Glut-AOct)-GLP-1(7-39);
 $Arg^{34}Lys^{23,26}$ -bis-(Glut-AOct)-GLP-1(7-39);

 $Arg^{26}Lys^{27,34}$ -bis-(Glut-AOct)-GLP-1(7-36);
 $Arg^{34}Lys^{27,26}$ -bis-(Glut-AOct)-GlP-1(7-36);

⁵-bis-(Glut-AOct)-GLP-1(7-39); Arg³⁴Lys^{27,28}-bis-(Glut-AOct)-GLP-1(7-36); Arg³⁴Lys^{27,26}-bis-(Glut-AOct)-GLP-1(7-37); Ara³⁴Lys^{27,26}-bis-(Glut-AOct)-GLP-1(7-38);

- Arg26Lys18,34-bis-(Glut-AOct)-GLP-1(7-38);Arg34Lys18,26-bis-(Glut-AOct)-GLP-1(7-38);Arg26Lys18,34-bis-(Glut-AOct)-GLP-1(7-39);Arg34Lys18,26-bis-(Glut-AOct)-GLP-1(7-39);Arg26Lys23,34-bis-(Glut-AOct)-GLP-1(7-36);Arg34Lys23,26-bis-(Glut-AOct)-GLP-1(7-36);Arg26Lys23,34-bis-(Glut-AOct)-GLP-1(7-37);Arg34Lys23,26-bis-(Glut-AOct)-GLP-1(7-37);Arg26Lys23,34-bis-(Glut-AOct)-GLP-1(7-38);Arg34Lys23,26-bis-(Glut-AOct)-GLP-1(7-37);Arg26Lys23,34-bis-(Glut-AOct)-GLP-1(7-38);Arg34Lys23,26-bis-(Glut-AOct)-GLP-1(7-38);
- Arg²⁶Lys^{34,39}-bis-(Glut-AOct)-GLP-1(7-39);
 Arg³⁴Lys^{26,39}-bis-(Glut-AOct)-GLP-1(7-39);

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 Arg²⁶Lys^{38,39}-bis-(Glut-AOct)-GLP-1(7-39);

 Arg²⁶Lys^{18,34}-bis-(Glut-AOct)-GLP-1(7-36);
 Arg³⁴Lys^{18,26}-bis-(Glut-AOct)-GLP-1(7-36);

 Arg²⁶Lys^{18,34}-bis-(Glut-AOct)-GLP-1(7-37);
 Arg³⁴Lys^{18,26}-bis-(Glut-AOct)-GLP-1(7-37);
- 5 AOct)-GLP-1(7-38); Lys^{28,34}-bis-(Glut-AOct)-GLP-1(7-39)
 Arg²⁶Lys^{34,36}-bis-(Glut-AOct)-GLP-1(7-36); Arg²⁶Lys^{34,36}-bis-(Glut-AOct)-GLP-1(7-37);
 Arg²⁶Lys^{34,37}-bis-(Glut-AOct)-GLP-1(7-37); Arg²⁶Lys^{34,39}-bis-(Glut-AOct)-GLP-1(7-37);
 Arg²⁶Lys^{34,39}-bis-(Glut-AOct)-GLP-1(7-37);
 Arg²⁶Lys^{34,39}-bis-(Glut-AOct)-GLP-1(7-37);
 Arg²⁶Lys^{34,39}-bis-(Glut-AOct)-GLP-1(7-37);
 Arg²⁶Lys^{34,39}-bis-(Glut-AOct)-GLP-1(7-37);
- Thr⁸Arg²⁶Lys^{34,38}-bis-(Glut-AHex)-GLP-1(7-38); Thr⁸Arg³⁴Lys^{26,38}-bis-(Glut-AHex)-GLP-1(7-38); Thr⁸Arg^{26,34}Lys^{36,39}-bis-(Glut-AHex)-GLP-1(7-38); Thr⁸Arg^{26,34}Lys^{36,39}-bis-(Glut-AHex)-GLP-1(7-39); Thr⁸Arg³⁴Lys^{26,39}-bis-(Glut-AHex)-GLP-1(7-39); Thr⁸Arg^{26,34}Lys^{36,39}-bis-(Glut-AHex)-GLP-1(7-39); Lys^{26,34}-bis-(Glut-AOct)-GLP-1(7-36); Lys^{26,34}-bis-(Glut-AOct)-GLP-1(7-37); Lys^{26,34}-bis-(Glut-

1(7-39); Arg³⁴Lys^{23,26}-bis-(Glut-ALit)-GLP-1(7-39);

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1(7-39); Arg³⁴Lys^{18,28}-bis-(Glut-ALit)-GLP-1(7-39); Arg²⁶Lys^{23,34}-bis-(Glut-ALit)-GLP-1(7-36); Arg³⁴Lys^{23,26}-bis-(Glut-ALit)-GLP-1(7-36); Arg²⁶Lys^{23,34}bis-(Glut-ALit)-GLP-1(7-37); Arg³⁴Lys^{23,26}-bis-(Glut-ALit)-GLP-1(7-37); Arg²⁶Lys^{23,34}-bis-(Glut-ALit)-GLP-1(7-38); Arg³⁴Lys^{23,26}-bis-(Glut-ALit)-GLP-1(7-38); Arg²⁶Lys^{23,34}-bis-(Glut-ALit)-GLP-

- 1(7-39); Arg³⁴Lys^{26,39}-bis-(Glut-ALit)-GLP-1(7-39); Arg^{26,34}Lys^{36,39}-bis-(Glut-ALit)-GLP-1(7-39); Arg²⁶Lys^{18,34}-bis-(Glut-ALit)-GLP-1(7-36); Arg²⁶Lys^{18,34}-bis-(Glut-ALit)-GLP-1(7-37); Arg²⁶Lys^{18,34}-bis-(Glut-ALit)-GLP-1(7-37); Arg²⁶Lys^{18,34}-bis-(Glut-ALit)-GLP-1(7-38); Arg³⁴Lys^{18,26}-bis-(Glut-ALit)-GLP-1(7-38); Arg²⁶Lys^{18,34}-bis-(Glut-ALit)-GLP-1(7-38); Arg³⁴Lys^{18,26}-bis-(Glut-ALit)-GLP-1(7-38); Arg²⁶Lys^{18,34}-bis-(Glut-ALit)-GLP-1(7-38); Arg³⁴Lys^{18,26}-bis-(Glut-ALit)-GLP-1(7-38); Arg²⁶Lys^{18,34}-bis-(Glut-ALit)-GLP-1(7-38); Arg³⁴Lys^{18,26}-bis-(Glut-ALit)-GLP-1(7-38); Arg²⁶Lys^{18,34}-bis-(Glut-ALit)-GLP-1(7-38); Arg³⁶Lys^{18,34}-bis-(Glut-ALit)-GLP-1(7-38); Arg³⁶Lys^{18,34}-bis-(Glut-ALit)-GLP-1(7-38); Arg³⁶Lys^{18,34}-bis-(Glut-ALit)-GLP-1(7-38); Arg³⁶Lys^{18,34}-bis-(Glut-ALit)-GLP-1(7-38); Arg³⁶Lys^{18,34}-bis-(Glut-ALit)-GLP-1(7-38); Arg³⁶Lys^{18,34}-bis-(Glut-ALit)-GLP-1(7-38); Arg³⁶Lys^{18,34}-bis-(Glut-ALit)-GLP-1(7-38); Arg³⁶Lys^{18,34}-bis-(Glut-ALit)-GLP-1(7-38); Arg³⁶Lys^{18,34}-bis-(Glut-ALit)-Alit)-Alit, Arg³⁶Lys^{18,34}-bis-(Glut-ALit)-Alit, Arg³⁶L
- GLP-1(7-38); Lys^{26,34}-bis-(Glut-ALit)-GLP-1(7-39)
 Arg²⁶Lys^{34,36}-bis-(Glut-ALit)-GLP-1(7-36); Arg³⁴Lys^{26,36}-bis-(Glut-ALit)-GLP-1(7-36); Arg²⁶Lys^{34,39}-bis-(Glut-ALit)-GLP-1(7-37); Arg²⁶Lys^{34,37}-bis-(Glut-ALit)-GLP-1(7-37); Arg²⁶Lys^{34,39}-bis-(Glut-ALit)-GLP-1(7-37); Arg³⁴Lys^{26,37}-bis-(Glut-ALit)-GLP-1(7-37); Arg²⁶Lys^{34,39}-bis-(Glut-ALit)-GLP-1(7-37); Arg³⁴Lys^{26,37}-bis-(Glut-ALit)-GLP-1(7-37); Arg²⁶Lys^{34,39}-bis-(Glut-ALit)-GLP-1(7-37); Arg³⁴Lys^{26,37}-bis-(Glut-ALit)-GLP-1(7-37); Arg²⁶Lys^{34,39}-bis-(Glut-ALit)-GLP-1(7-37); Arg³⁴Lys^{26,37}-bis-(Glut-ALit)-GLP-1(7-37); Arg²⁶Lys^{34,39}-bis-(Glut-ALit)-GLP-1(7-37); Arg²⁶Lys^{34,39}-bis-(Glut-ALit)-GLP-1(7-37); Arg³⁴Lys^{26,37}-bis-(Glut-ALit)-GLP-1(7-37); Arg²⁶Lys^{34,39}-bis-(Glut-ALit)-GLP-1(7-37); Arg³⁴Lys^{26,37}-bis-(Glut-ALit)-GLP-1(7-37); Arg²⁶Lys^{34,39}-bis-(Glut-ALit)-GLP-1(7-37); Arg³⁴Lys^{34,39}-bis-(Glut-ALit)-GLP-1(7-37); Arg³⁴Lys³⁴-bis-(Glut-ALit)-GLP-1(7-37); Arg³⁴Lys³⁴-bis-(Glut-ALit)-GLP-1(7-37); Arg³⁴Lys³⁴-bis-(Glut-ALit)-GLP-1(7-37); Arg³⁴Lys³⁴-bis-(Glut-ALit)-GLP-1(7-37); Arg³⁴-bis-(Glut-ALit)-GLP-1(7-37); Arg³⁴-bis-(Glut-ALit)-GLP-1(7-37); Arg³⁴-bis-(Glut-ALit)-GLP-1(7-37); Arg³⁴-bis-(Glut-ALit)-Alit)-Alit, Arg³⁴-bis-(Glut-ALit)-Alit, Arg³⁴-bis-(Glut-ALit)-Alit, Arg³⁴-bis-(Glut-ALit)-Alit, Arg³⁴-bis-(Glut-ALit)-Alit, Arg³⁴-bis-(Glut-ALit)-Alit, Arg³⁴-bis-(Glut-Alit)-Alit, Arg³⁴-
- Thr⁸Arg^{26,34}Lys^{36,38}-bis-(Glut-AOct)-GLP-1(7-38); Thr⁸Arg²⁶Lys^{34,39}-bis-(Glut-AOct)-GLP-1(7-39); 20 Thr⁸Arg³⁴Lys^{26,39}-bis-(Glut-AOct)-GLP-1(7-39); Thr⁸Arg^{26,34}Lys^{36,39}-bis-(Glut-AOct)-GLP-1(7-39); 21 Lys^{28,34}-bis-(Glut-ALit)-GLP-1(7-36); Lys^{26,34}-bis-(Glut-ALit)-GLP-1(7-37); Lys^{26,34}-bis-(Glut-ALit)-
- 15 Thr⁸Arg²⁶Lys^{34,38}-bis-(Glut-AOct)-GLP-1(7-36); Thr⁸Arg²⁶Lys^{34,38}-bis-(Glut-AOct)-GLP-1(7-37); Thr⁸Arg²⁶Lys^{34,37}-bis-(Glut-AOct)-GLP-1(7-37); Thr⁸Arg²⁶Lys^{34,38}-bis-(Glut-AOct)-GLP-1(7-38); Thr⁸Arg^{26,34}Lys^{36,38}-bis-(Glut-AOct)-GLP-1(7-38);

Thr⁸Arg³⁴Lys^{26,36}-bis-(Glut-AOct)-GLP-1(7-36); Thr⁸Arg³⁴Lys^{26,38}-bis-(Glut-AOct)-GLP-1(7-37); Thr⁸Arg³⁴Lys^{26,37}-bis-(Glut-AOct)-GLP-1(7-37); Thr⁸Arg³⁴Lys^{26,38}-bis-(Glut-AOct)-GLP-1(7-38); Thr⁸Arg²⁶Lys^{34,39}-bis-(Glut-AOct)-GLP-1(7-39);

- Ser³Arg²⁶Lys^{34,37}-bis-(Glut-AOct)-GLP-1(7-37);
 Ser³Arg²⁶Lys^{34,37}-bis-(Glut-AOct)-GLP-1(7-37);
 Ser³Arg²⁶Lys^{34,38}-bis-(Glut-AOct)-GLP-1(7-38);
 Ser³Arg²⁶Lys^{34,38}-bis-(Glut-AOct)-GLP-1(7-38);
 Ser³Arg²⁶Lys^{36,38}-bis-(Glut-AOct)-GLP-1(7-38);
 Ser³Arg²⁶Lys^{36,38}-bis-(Glut-AOct)-GLP-1(7-38);
 Ser³Arg²⁶Lys^{36,39}-bis-(Glut-AOct)-GLP-1(7-39);
 Ser³Arg³⁴Lys^{26,34}-bis-(Glut-AOct)-GLP-1(7-39);
 Ser³Arg³⁴Lys^{26,34}-bis-(Glut-AOct)-GLP-1(7-39);
 Ser³Arg³⁴Lys^{26,34}-bis-(Glut-AOct)-GLP-1(7-36);
 Thr⁴Lys^{26,34}-bis-(Glut-AOct)-GLP-1(7-36);
 Thr⁴Lys^{26,34}-bis-(Glut-AOct)-GLP-1(7-38);
 Thr⁴Lys^{26,34}-bis-(Glut-AOct)-GLP-1(7-38);
 Thr⁴Lys^{26,34}-bis-(Glut-AOct)-GLP-1(7-38);
- Ser⁸Lys^{26,34}-bis-(Glut-AOct)-GLP-1(7-36); Ser⁸Lys^{26,34}-bis-(Glut-AOct)-GLP-1(7-37); Ser⁸Lys^{26,34}-bis-(Glut-AOct)-GLP-1(7-39)
 Ser⁸Arg²⁶Lys^{34,36}-bis-(Glut-AOct)-GLP-1(7-36); Ser⁸Arg³⁴Lys^{26,36}-bis-(Glut-AOct)-GLP-1(7-36); Ser⁸Arg²⁶Lys^{34,36}-bis-(Glut-AOct)-GLP-1(7-37); Ser⁸Arg³⁴Lys^{26,36}-bis-(Glut-AOct)-GLP-1(7-37); Ser⁸Arg²⁶Lys^{34,37}-bis-(Glut-AOct)-GLP-1(7-37); Ser⁸Arg³⁴Lys^{26,38}-bis-(Glut-AOct)-GLP-1(7-37); Ser⁸Arg²⁶Lys^{34,37}-bis-(Glut-AOct)-GLP-1(7-37); Ser⁸Arg³⁴Lys^{28,37}-bis-(Glut-AOct)-GLP-1(7-37); Ser⁸Arg²⁶Lys^{34,38}-bis-(Glut-AOct)-GLP-1(7-38); Ser⁸Arg³⁴Lys^{28,38}-bis-(Glut-AOct)-GLP-1(7-38); Ser⁸Arg³⁴Lys^{28,38}-bis-(Slut-AOct)-SLP-1(7-38); Ser⁸Arg³⁴Lys^{28,38}-bis-(Slut-AOct)-SLP-1(7-38); Ser⁸Arg³⁴Lys^{28,38}-bis-(Slut-AOct)-SLP-1(7-38); Ser⁸Arg³⁴Lys^{28,38}-bis-(Slut-AOct)-SLP-1(7-38); Ser⁸Arg³⁴Lys³⁴Lys³⁴Lys³⁴-bis-(Slut-AOct)-SLP-1(7-38); Ser⁸Arg³⁴Lys
- Val⁸Arg²⁶Lys^{34,37}-bis-(Glut-AOct)-GLP-1(7-37); Val⁸Arg³⁴Lys^{26,37}-bis-(Glut-AOct)-GLP-1(7-37); Val⁸Arg²⁶Lys^{34,39}-bis-(Glut-AOct)-GLP-1(7-38); Val⁸Arg²⁶Lys^{34,39}-bis-(Glut-AOct)-GLP-1(7-38); Val⁸Arg²⁶Lys^{34,39}-bis-(Glut-AOct)-GLP-1(7-39); Val⁸Arg^{26,34}Lys^{26,39}-bis-(Glut-AOct)-GLP-1(7-39); Val⁸Arg^{26,34}Lys^{26,39}-bis-(Glut-AOct)-GLP-1(7-39); Ser⁸Lys^{26,34}-bis-(Glut-AOct)-GLP-1(7-37); Ser⁸Lys^{26,}

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bis-(Glut-ALit)-GLP-1(7-38); Thr⁸Lys^{28,34}-bis-(C Thr⁸Arg²⁶Lys^{34,38}-bis-(Glut-ALit)-GLP-1(7-36); Thr⁸Arg²⁶Lys^{34,35}-bis-(Glut-ALit)-GLP-1(7-37); Thr⁸Arg²⁶Lys^{34,37}-bis-(Glut-ALit)-GLP-1(7-37); Thr⁸Arg²⁶Lys^{34,38}-bis-(Glut-ALit)-GLP-1(7-38);

Thr⁸Arg³⁴Lys^{26,36}-bis-(Glut-ALit)-GLP-1(7-36); Thr⁸Arg³⁴Lys^{26,36}-bis-(Glut-ALit)-GLP-1(7-37); Thr⁸Arg³⁴Lys^{26,37}-bis-(Glut-ALit)-GLP-1(7-37); Thr⁸Arg³⁴Lys^{26,38}-bis-(Glut-ALit)-GLP-1(7-38);

25 Ser⁸Arg²⁶Lys^{34,37}-bis-(Glut-ALit)-GLP-1(7-37); Ser⁸Arg³⁴Lys^{26,37}-bis-(Glut-ALit)-GLP-1(7-37); Ser⁸Arg²⁶Lys^{34,38}-bis-(Glut-ALit)-GLP-1(7-38); Ser⁸Arg^{26,34}Lys^{26,38}-bis-(Glut-ALit)-GLP-1(7-38); Ser⁸Arg^{26,34}Lys^{26,39}-bis-(Glut-ALit)-GLP-1(7-39); Ser⁸Arg³⁴Lys^{26,39}-bis-(Glut-ALit)-GLP-1(7-39); Ser⁸Arg³⁴Lys^{26,34}-bis-(Glut-ALit)-GLP-1(7-39); Thr⁸Lys^{26,34}-bis-(Glut-ALit)-GLP-1(7-36); Thr⁸Lys^{26,34}-bis-(Glut-ALit)-GLP-1(7-37); Thr⁸Lys^{26,34}-bis-(Glut-ALit)-GLP-1(7-38); Thr⁸Lys^{26,34}-bis-(Glut-ALit)-GLP-1(7-37); Thr⁸Lys^{26,34}-bis-(Glut-ALit)-GLP-1(7-38); Thr⁸Lys^{26,34}-bis-(Glut-ALit)-GLP-1(7-39))

 Ser⁸Lys^{28,34}-bis-(Glut-ALit)-GLP-1(7-36);
 Ser⁸Lys^{26,34}-bis-(Glut-ALit)-GLP-1(7-37);
 Ser²Lys^{28,34}-bis-(Glut-ALit)-GLP-1(7-37);

 bis-(Glut-ALit)-GLP-1(7-38);
 Ser⁸Arg²⁸Lys^{28,36}-bis-(Glut-ALit)-GLP-1(7-39)

 Ser⁸Arg²⁸Lys^{34,38}-bis-(Glut-ALit)-GLP-1(7-36);
 Ser⁸Arg³⁴Lys^{28,36}-bis-(Glut-ALit)-GLP-1(7-36);

 Ser⁸Arg²⁸Lys^{34,38}-bis-(Glut-ALit)-GLP-1(7-37);
 Ser⁸Arg³⁴Lys^{28,38}-bis-(Glut-ALit)-GLP-1(7-37);

 Ser⁸Arg²⁸Lys^{34,37}-bis-(Glut-ALit)-GLP-1(7-37);
 Ser⁸Arg³⁴Lys^{28,37}-bis-(Glut-ALit)-GLP-1(7-37);

Val Arg ^{26,34}Lys^{26,39}-bis-(Glut-ALit)-GLP-1(7-39); Val⁸Arg^{26,34}Lys^{26,34}-bis-(Glut-ALit)-GLP-1(7-39);
 Ser⁸Lys^{26,34}-bis-(Glut-ALit)-GLP-1(7-36); Ser⁸Lys^{26,34}-bis-(Glut-ALit)-GLP-1(7-37); Ser⁸Lys^{26,34}-bis-(Glut-ALit)-GLP-1(7-38); Ser⁸Lys²⁶-34</sup>-bis-(Glut-ALit)-GLP-1(7-38); Ser⁸Lys²⁶-34</sup>-bis-(Glut-ALit)-GLP-1(7-38); Ser⁸Lys²⁶-34</sup>-34, Ser⁸Lys²⁶-34, Ser

- Val⁸Arg²⁸Lys^{34,38}-bis-(Glut-ALit)-GLP-1(7-36);
 Val⁸Arg²⁸Lys^{34,38}-bis-(Glut-ALit)-GLP-1(7-37);
 Val⁸Arg²⁶Lys^{34,39}-bis-(Glut-ALit)-GLP-1(7-37);
 Val⁸Arg²⁶Lys^{34,39}-bis-(Glut-ALit)-GLP-1(7-38);
 Val⁸Arg^{26,34}Lys^{36,38}-bis-(Glut-ALit)-GLP-1(7-38);
 Val⁸Arg^{26,34}Lys^{36,38}-bis-(Glut-ALit)-GLP-1(7-38);
 Val⁸Arg^{26,34}Lys^{36,38}-bis-(Glut-ALit)-GLP-1(7-38);
 Val⁸Arg^{26,34}Lys^{36,38}-bis-(Glut-ALit)-GLP-1(7-38);
 Val⁸Arg^{26,34}Lys^{36,38}-bis-(Glut-ALit)-GLP-1(7-38);
 Val⁸Arg²⁶Lys^{34,39}-bis-(Glut-ALit)-GLP-1(7-38);
- Gly⁸Arg³⁴Lys^{26,39}-bis-(Glut-ALit)-GLP-1(7-39); Gly⁸Arg^{26,34}Lys^{36,39}-bis-(Glut-ALit)-GLP-1(7-39);
 Val⁸Lys^{26,34}-bis-(Glut-ALit)-GLP-1(7-36); Val⁸Lys^{26,34}-bis-(Glut-ALit)-GLP-1(7-39)
 Val⁸Arg²⁶Lys^{34,36}-bis-(Glut-ALit)-GLP-1(7-36); Val⁸Arg³⁴Lys^{26,36}-bis-(Glut-ALit)-GLP-1(7-36);
 Val⁸Arg²⁶Lys^{34,36}-bis-(Glut-ALit)-GLP-1(7-37); Val⁸Lys^{26,36}-bis-(Glut-ALit)-GLP-1(7-37);
- Gly⁸Arg²⁶Lys^{34,38}-bis-(Glut-ALit)-GLP-1(7-37); Gly⁸Arg²⁶Lys^{34,37}-bis-(Glut-ALit)-GLP-1(7-37); Gly⁸Arg²⁶Lys^{34,38}-bis-(Glut-ALit)-GLP-1(7-37); Gly⁸Arg²⁶Lys^{28,38}-bis-(Glut-ALit)-GLP-1(7-38); Gly⁸Arg²⁶Lys^{34,38}-bis-(Glut-ALit)-GLP-1(7-38); Gly⁸Arg²⁶Lys^{34,38}-bis-(Glut-ALit)-GLP-1(7-38); Gly⁸Arg²⁶Lys^{34,38}-bis-(Glut-ALit)-GLP-1(7-38); Gly⁸Arg²⁶Lys^{34,39}-bis-(Glut-ALit)-GLP-1(7-38); Gly⁸Arg²⁶Lys^{34,39}-bis-(Glut-ALit)-GLP-1(7-38); Gly⁸Arg²⁶Lys^{34,39}-bis-(Glut-ALit)-GLP-1(7-38); Gly⁸Arg²⁶Lys^{34,39}-bis-(Glut-ALit)-GLP-1(7-39);
- ALit)-GLP-1(7-36); Arg³⁴Lys^{27,26}-bis-(Glut-ALit)-GLP-1(7-39); 5 Gly⁸Lys^{28,34}-bis-(Glut-ALit)-GLP-1(7-36); Gly⁸Lys^{28,34}-bis-(Glut-ALit)-GLP-1(7-37); Gly⁸Lys^{28,34}bis-(Glut-ALit)-GLP-1(7-38); Gly⁸Lys^{28,34}-bis-(Glut-ALit)-GLP-1(7-39)

Arg²⁶Lys^{27,34}-bis-(Glut-ALit)-GLP-1(7-36); Arg³⁴Lys^{27,26}-bis-(Glut-ALit)-GLP-1(7-36); Arg²⁶Lys^{27,34}bis-(Glut-ALit)-GLP-1(7-37); Arg³⁴Lys^{27,26}-bis-(Glut-ALit)-GLP-1(7-37); Arg²⁶Lys^{27,34}-bis-(Glut-ALit)-GLP-1(7-38); Arg³⁴Lys^{27,26}-bis-(Glut-ALit)-GLP-1(7-38); Arg²⁶Lys^{27,34}-bis-(Glut-ALit)-GLP-

Gly8Arg28Lys34,36-bis-(Glut-ALit)-GLP-1(7-36);

Gly8Arg34Lys26,36-bis-(Glut-ALit)-GLP-1(7-36);

bis-(Aspa-ADod)-GLP-1(7-39); Val⁸Lys^{26,34}-bis-(Aspa-ADod)-GLP-1(7-36); Val⁸Lys^{26,34}-bis-(Aspa-ADod)-GLP-1(7-37); Val⁸Lys^{26,34}-bis-(Aspa-ADod)-GLP-1(7-38); Val⁸Lys^{26,34}-bis-(Aspa-ADod)-GLP-1(7-39) Val⁸Arg²⁶Lys^{34,36}-bis-(Aspa-ADod)-GLP-1(7-36); Val⁸Arg³⁴Lys^{26,36}-bis-(Aspa-ADod)-GLP-1(7-36); Val⁸Arg²⁶Lys^{34,38}-bis-(Aspa-ADod)-GLP-1(7-37); Val⁸Arg³⁴Lys^{26,36}-bis-(Aspa-ADod)-GLP-1(7-37);

- Gly⁸Lys^{26,34}-bis-(Aspa-ADod)-GLP-1(7-36); Gly⁸Lys^{26,34}-bis-(Aspa-ADod)-GLP-1(7-37);
 Gly⁸Lys^{26,34}-bis-(Aspa-ADod)-GLP-1(7-38); Gly⁸Lys^{26,34}-bis-(Aspa-ADod)-GLP-1(7-39)
 Gly⁸Arg²⁶Lys^{34,36}-bis-(Aspa-ADod)-GLP-1(7-36); Gly⁸Arg³⁴Lys^{26,36}-bis-(Aspa-ADod)-GLP-1(736); Gly⁸Arg²⁶Lys^{34,36}-bis-(Aspa-ADod)-GLP-1(7-37); Gly⁸Arg³⁴Lys^{26,36}-bis-(Aspa-ADod)-GLP-1(736); Gly⁸Arg²⁶Lys^{34,37}-bis-(Aspa-ADod)-GLP-1(7-37); Gly⁸Arg³⁴Lys^{26,36}-bis-(Aspa-ADod)-GLP-1(7-37); Gly⁸Arg²⁶Lys^{34,37}-bis-(Aspa-ADod)-GLP-1(7-37); Gly⁸Arg²⁶Lys^{34,38}-bis-(Aspa-ADod)-GLP-1(7-38); Gly⁸Arg³⁴Lys^{26,38}-bis-(Aspa-ADod)-GLP-1(7-38); Gly⁸Arg²⁶Lys^{34,39}-bis-(Aspa-ADod)-GLP-1(7-38); Gly⁸Arg²⁶Lys^{34,39}-bis-(Aspa-ADod)-GLP-1(7-38); Gly⁸Arg²⁶Lys^{34,39}-bis-(Aspa-ADod)-GLP-1(7-38); Gly⁸Arg²⁶Lys^{34,39}-bis-(Aspa-ADod)-GLP-1(7-38); Gly⁸Arg²⁶Lys^{34,39}-bis-(Aspa-ADod)-GLP-1(7-38); Gly⁸Arg²⁶Lys^{34,39}-bis-(Aspa-ADod)-GLP-1(7-38); Gly⁸Arg²⁶Lys^{34,39}-bis-(Aspa-ADod)-GLP-1(7-38); Gly⁸Arg²⁶Lys^{34,39}-bis-(Aspa-ADod)-GLP-1(7-39); Gly⁸Arg^{26,34}Lys^{36,39}-bis-(Aspa-ADod)-GLP-1(7-39); Gly⁸Arg^{36,34}Lys
- $\label{eq:rescaled} Arg^{26}Lys^{23,24}-bis-(Aspa-ADod)-GLP-1(7-38); Arg^{24}Lys^{23,26}-bis-(Aspa-ADod)-GLP-1(7-38); Arg^{26}Lys^{27,24}-bis-(Aspa-ADod)-GLP-1(7-39); Arg^{24}Lys^{23,26}-bis-(Aspa-ADod)-GLP-1(7-39); Arg^{26}Lys^{27,24}-bis-(Aspa-ADod)-GLP-1(7-36); Arg^{26}Lys^{27,24}-bis-(Aspa-ADod)-GLP-1(7-37); Arg^{24}Lys^{27,26}-bis-(Aspa-ADod)-GLP-1(7-37); Arg^{26}Lys^{27,24}-bis-(Aspa-ADod)-GLP-1(7-38); Arg^{24}Lys^{27,26}-bis-(Aspa-ADod)-GLP-1(7-37); Arg^{26}Lys^{27,24}-bis-(Aspa-ADod)-GLP-1(7-38); Arg^{26}Lys^{27,24}-bis-(Aspa-ADod)-GLP-1(7-38); Arg^{26}Lys^{27,24}-bis-(Aspa-ADod)-GLP-1(7-39); Arg^{24}Lys^{27,26}-bis-(Aspa-ADod)-GLP-1(7-38); Arg^{26}Lys^{27,24}-bis-(Aspa-ADod)-GLP-1(7-38); Arg^{26}Lys^{27,24}-bis-(Aspa-ADod)-GLP-1(7-38); Arg^{26}Lys^{27,24}-bis-(Aspa-ADod)-GLP-1(7-39); Gly^8Lys^{28,24}-bis-(Aspa-ADod)-GLP-1(7-37); Gly^8Lys^{28,24}-bis-(Aspa-ADod)-GLP-1(7-37); \\ \end{tabular}$
- 5 Arg²⁶Lys^{34,36}-bis-(Aspa-ADod)-GLP-1(7-36); Arg²⁶Lys^{34,36}-bis-(Aspa-ADod)-GLP-1(7-37); Arg²⁶Lys^{34,37}-bis-(Aspa-ADod)-GLP-1(7-37); Arg²⁶Lys^{34,39}-bis-(Aspa-ADod)-GLP-1(7-37); Arg²⁶Lys^{34,39}-bis-(Aspa-ADod)-GLP-1(7-39); Arg²⁶Lys^{36,39}-bis-(Aspa-ADod)-GLP-1(7-39); Arg²⁶Lys^{18,34}-bis-(Aspa-ADod)-GLP-1(7-39); Arg²⁶Lys^{18,34}-bis-(Aspa-ADod)-GLP-1(7-36);
 10 Arg²⁶Lys^{18,34}-bis-(Aspa-ADod)-GLP-1(7-36); Arg³⁴Lys^{18,28}-bis-(Aspa-ADod)-GLP-1(7-36);
- Thr⁸Arg^{26,34}Lys^{35,38}-bis-(Glut-ALit)-GLP-1(7-38); Thr⁸Arg²⁶Lys^{34,39}-bis-(Glut-ALit)-GLP-1(7-39); Thr⁸Arg³⁴Lys^{26,39}-bis-(Glut-ALit)-GLP-1(7-39); Lys^{26,34}-bis-(Aspa-ADod)-GLP-1(7-37); Lys^{26,34}-bis-(Aspa-ADod)-GLP-1(7-37); Lys^{26,34}-bis-(Aspa-ADod)-GLP-1(7-38); Lys^{26,34}-bis-(Aspa-ADod)-GLP-1(7-39)

Val⁸Arg²⁶Lys^{34,37}-bis-(Aspa-ADod)-GLP-1(7-37); Val⁸Arg³⁴Lys^{28,37}-bis-(Aspa-ADod)-GLP-1(7-37); Val⁸Arg²⁶Lys^{34,38}-bis-(Aspa-ADod)-GLP-1(7-38); Val⁸Arg³⁴Lys^{28,38}-bis-(Aspa-ADod)-GLP-1(7-38); Val⁸Arg^{26,34}Lys^{38,38}-bis-(Aspa-ADod)-GLP-1(7-38); Val⁸Arg²⁶Lys^{34,39}-bis-(Aspa-ADod)-GLP-1(7-39); Val⁸Arg³⁴Lys^{28,39}-bis-(Aspa-ADod)-GLP-1(7-39); Val⁸Arg^{26,34}Lys^{38,39}-bis-(Aspa-ADod)-GLP-1(7-47, 20);

5 **1(7-39);**

Ser⁸Lys^{28,34}-bis-(Aspa-ADod)-GLP-1(7-36); Ser⁸Lys^{28,34}-bis-(Aspa-ADod)-GLP-1(7-37); Ser⁸Lys^{28,34}-bis-(Aspa-ADod)-GLP-1(7-38); Ser⁸Lys^{28,34}-bis-(Aspa-ADod)-GLP-1(7-39) Ser⁸Arg²⁶Lys^{34,36}-bis-(Aspa-ADod)-GLP-1(7-36); Ser⁸Arg³⁴Lys^{26,36}-bis-(Aspa-ADod)-GLP-1(7-36); Ser⁸Arg²⁶Lys^{34,36}-bis-(Aspa-ADod)-GLP-1(7-37); Ser⁸Arg³⁴Lys^{26,37}-bis-(Aspa-ADod)-GLP-1(7-37); Ser⁸Arg²⁶Lys^{34,37}-bis-(Aspa-ADod)-GLP-1(7-37); Ser⁸Arg³⁴Lys^{26,37}-bis-(Aspa-ADod)-GLP-1(7-37); Ser⁸Arg²⁶Lys^{34,38}-bis-(Aspa-ADod)-GLP-1(7-38); Ser⁸Arg³⁴Lys^{26,38}-bis-(Aspa-ADod)-GLP-1(7-38); Ser⁸Arg²⁶Lys^{34,38}-bis-(Aspa-ADod)-GLP-1(7-38); Ser⁸Arg²⁶Lys^{34,39}-bis-(Aspa-ADod)-GLP-1(7-39); Ser⁸Arg³⁴Lys^{26,39}-bis-(Aspa-ADod)-GLP-1(7-39); Ser⁸Arg²⁶Lys^{34,39}-bisbis-(Aspa-ADod)-GLP-1(7-39); Ser⁸Arg³⁴Lys^{26,39}-bis-(Aspa-ADod)-GLP-1(7-39); Ser⁸Arg^{28,34}Lys^{36,39}-bis-(Aspa-ADod)-GLP-1(7-39); Ser⁸Arg³⁴Lys^{36,39}-bis-(Aspa-ADod)-GLP-1(7-39); Ser⁸Arg³⁴Lys^{36,39}-bis-(Aspa-ADod)-GLP-1(7-39); Ser⁸Arg³⁴Lys^{36,39}-bis-(Aspa-ADod)-GLP-1(7-39

- 15 Thr⁸Lys^{28,34}-bis-(Aspa-ADod)-GLP-1(7-36); Thr⁸Lys^{28,34}-bis-(Aspa-ADod)-GLP-1(7-37); Thr⁸Lys^{28,34}-bis-(Aspa-ADod)-GLP-1(7-38); Thr⁸Lys^{28,34}-bis-(Aspa-ADod)-GLP-1(7-39) Thr⁸Arg²⁸Lys^{34,38}-bis-(Aspa-ADod)-GLP-1(7-36); Thr⁸Arg³⁴Lys^{28,38}-bis-(Aspa-ADod)-GLP-1(7-36); Thr⁸Arg³⁴Lys^{28,38}-bis-(Aspa-ADod)-GLP-1(7-36); Thr⁸Arg³⁴Lys^{28,38}-bis-(Aspa-ADod)-GLP-1(7-36); Thr⁸Arg³⁴Lys^{28,38}-bis-(Aspa-ADod)-GLP-1(7-36); Thr⁸Arg³⁴Lys^{28,38}-bis-(Aspa-ADod)-GLP-1(7-36); Thr⁸Arg³⁴Lys^{28,38}-bis-(Aspa-ADod)-GLP-1(7-37); Thr⁸Arg³⁴Lys^{26,37}-bis-(Aspa-ADod)-GLP-1(7-37); Thr⁸Arg³⁴Lys^{26,37}-bis-(Aspa-ADod)-1(3x³⁴-bis-(Aspa-ADod)-1(x³⁴-bis-(Aspa-ADod)-1(x³⁴-bis-(Aspa-A
- GLP-1(7-37); Thr⁸Arg²⁶Lys^{34,38}-bis-(Aspa-ADod)-GLP-1(7-38); Thr⁸Arg³⁴Lys^{26,38}-bis-(Aspa-ADod)-GLP-1(7-38); Thr⁸Arg²⁶Lys^{34,39}-bis-(Aspa-ADod)-GLP-1(7-38); Thr⁸Arg²⁶Lys^{34,39}-bis-(Aspa-ADod)-GLP-1(7-39); Thr⁸Arg^{26,34}Lys^{36,39}-bis-(Aspa-ADod)-GLP-1(7-39); Thr⁸Arg^{26,34}Lys^{36,39}-bis-(Aspa-ADod)-GLP-1(7-39);

Lys^{28,34}-bis-(Aspa-ATet)-GLP-1(7-36); Lys^{26,34}-bis-(Aspa-ATet)-GLP-1(7-37); Lys^{28,34}-bis-(Aspa-ATet)-GLP-1(7-38); Lys^{26,34}-bis-(Aspa-ATet)-GLP-1(7-39)

	Arg ²⁶ Lys ^{34,36} -bis-(Aspa-ATet)-GLP-1(7-36);	Arg ³⁴ Lys ^{26,36} -bis-(Aspa-ATet)-GLP-1(7-36);
	Arg ²⁶ Lys ^{34,38} -bis-(Aspa-ATet)-GLP-1(7-37);	Arg ³⁴ Lys ^{26,36} -bis-(Aspa-ATet)-GLP-1(7-37);
	Arg ²⁶ Lys ^{34,37} -bis-(Aspa-ATet)-GLP-1(7-37);	Arg ³⁴ Lys ^{26,37} -bis-(Aspa-ATet)-GLP-1(7-37);
	Arg ²⁸ Lys ^{34,39} -bis-(Aspa-ATet)-GLP-1(7-39);	Arg ³⁴ Lys ^{28,39} -bis-(Aspa-ATet)-GLP-1(7-39);
30	Arg ^{28,34} Lys ^{36,39} -bis-(Aspa-ATet)-GLP-1(7-39);	

 Arg²⁶Lys^{18,34}-bis-(Aspa-ATet)-GLP-1(7-36);
 Arg³⁴Lys^{18,26}-bis-(Aspa-ATet)-GLP-1(7-36);

 Arg²⁶Lys^{18,34}-bis-(Aspa-ATet)-GLP-1(7-37);
 Arg³⁴Lys^{18,26}-bis-(Aspa-ATet)-GLP-1(7-37);

 Arg²⁶Lys^{18,34}-bis-(Aspa-ATet)-GLP-1(7-37);
 Arg³⁴Lys^{18,26}-bis-(Aspa-ATet)-GLP-1(7-37);

 Arg²⁶Lys^{18,34}-bis-(Aspa-ATet)-GLP-1(7-38);
 Arg³⁴Lys^{18,26}-bis-(Aspa-ATet)-GLP-1(7-38);

Arg²⁶Lys^{18,34}-bis-(Aspa-ATet)-GLP-1(7-39); Arg³⁴Lys^{18,26}-bis-(Aspa-ATet)-GLP-1(7-39);

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Ser⁸Lys^{26,34}-bis-(Aspa-ATet)-GLP-1(7-38); Ser⁸Lys^{28,34}-bis-(Aspa-ATet)-GLP-1(7-39)
 Ser⁸Arg²⁵Lys^{34,35}-bis-(Aspa-ATet)-GLP-1(7-36); Ser⁸Arg³⁴Lys^{26,36}-bis-(Aspa-ATet)-GLP-1(7-36);
 Ser⁸Arg²⁶Lys^{34,37}-bis-(Aspa-ATet)-GLP-1(7-37); Ser⁸Arg³⁴Lys^{26,37}-bis-(Aspa-ATet)-GLP-1(7-37);
 Ser⁸Arg²⁶Lys^{34,38}-bis-(Aspa-ATet)-GLP-1(7-37); Ser⁸Arg³⁴Lys^{26,38}-bis-(Aspa-ATet)-GLP-1(7-37);
 Ser⁸Arg²⁶Lys^{34,38}-bis-(Aspa-ATet)-GLP-1(7-38); Ser⁸Arg³⁴Lys^{26,38}-bis-(Aspa-ATet)-GLP-1(7-38);
 Ser⁸Arg²⁶Lys^{34,38}-bis-(Aspa-ATet)-GLP-1(7-38); Ser⁸Arg²⁶Lys^{34,39}-bis-(Aspa-ATet)-GLP-1(7-38);
 Ser⁸Arg²⁶Lys^{34,39}-bis-(Aspa-ATet)-GLP-1(7-38); Ser⁸Arg²⁶Lys^{34,39}-bis-(Aspa-ATet)-GLP-1(7-38);
 Ser⁸Arg³⁴Lys^{28,39}-bis-(Aspa-ATet)-GLP-1(7-38); Ser⁸Arg²⁶Lys^{34,39}-bis-(Aspa-ATet)-GLP-1(7-38);
 Ser⁸Arg³⁴Lys^{36,38}-bis-(Aspa-ATet)-GLP-1(7-38); Ser⁸Arg²⁶Lys^{34,39}-bis-(Aspa-ATet)-GLP-1(7-39);
 Ser⁸Arg³⁴Lys^{36,39}-bis-(Aspa-ATet)-GLP-1(7-39); Ser⁸Arg^{28,34}Lys^{36,39}-bis-(Aspa-ATet)-GLP-1(7-39);

- Val⁸Lys^{26,34}-bis-(Aspa-ATet)-GLP-1(7-38); Val⁸Lys^{26,34}-bis-(Aspa-ATet)-GLP-1(7-39)
 Val⁸Arg²⁶Lys^{34,36}-bis-(Aspa-ATet)-GLP-1(7-36); Val⁸Arg³⁴Lys^{26,36}-bis-(Aspa-ATet)-GLP-1(7-37); Val⁸Arg²⁶Lys^{34,37}-bis-(Aspa-ATet)-GLP-1(7-37); Val⁸Arg²⁶Lys^{34,37}-bis-(Aspa-ATet)-GLP-1(7-37); Val⁸Arg²⁶Lys^{34,39}-bis-(Aspa-ATet)-GLP-1(7-37); Val⁸Arg²⁶Lys^{34,39}-bis-(Aspa-ATet)-GLP-1(7-38); Val⁸Arg²⁶Lys^{34,39}-bis-(Aspa-ATet)-GLP-1(7-38); Val⁸Arg²⁶Lys^{34,39}-bis-(Aspa-ATet)-GLP-1(7-38); Val⁸Arg²⁶Lys^{34,39}-bis-(Aspa-ATet)-GLP-1(7-39); Val⁸Arg^{26,34}Lys^{26,39}-bis-(Aspa-ATet)-GLP-1(7-39); Val⁸Arg^{26,34}Lys^{26,34}-bis-(Aspa-ATet)-GLP-1(7-39); Ser⁸Lys^{26,34}-bis-(Aspa-ATet)-GLP-1(7-37); Ser⁸Lys^{26,34}-bis-(Aspa-ATet)-GLP-1(7-37);
- 1(7-39); Val⁸Lys^{26,34}-bis-(Aspa-ATet)-GLP-1(7-36); Val⁸Lys^{26,34}-bis-(Aspa-ATet)-GLP-1(7-37); Val⁸Lys^{26,34}-bis-(Aspa-ATet)-GLP-1(7-38); Val⁸Lys^{26,34}-bis-(Aspa-ATet)-GLP-1(7-36); Val⁸Aro²⁶Lys^{26,36}-bis-(Aspa-ATet)-GLP-1(7-36); Val⁸Aro³⁴Lys^{26,36}-bis-(Aspa-ATet)-GLP-1(7-36);
- Gly⁸Lys^{28,34}-bis-(Aspa-ATet)-GLP-1(7-38); Gly⁸Lys^{28,34}-bis-(Aspa-ATet)-GLP-1(7-39)
 Gly⁸Arg²⁶Lys^{34,36}-bis-(Aspa-ATet)-GLP-1(7-36); Gly⁸Arg³⁴Lys^{28,36}-bis-(Aspa-ATet)-GLP-1(7-36);
 Gly⁸Arg²⁶Lys^{34,36}-bis-(Aspa-ATet)-GLP-1(7-37); Gly⁸Arg³⁴Lys^{28,36}-bis-(Aspa-ATet)-GLP-1(7-37);
 Gly⁸Arg²⁶Lys^{34,38}-bis-(Aspa-ATet)-GLP-1(7-37); Gly⁸Arg³⁴Lys^{28,38}-bis-(Aspa-ATet)-GLP-1(7-37);
 Gly⁸Arg²⁶Lys^{34,38}-bis-(Aspa-ATet)-GLP-1(7-38); Gly⁸Arg³⁴Lys^{28,38}-bis-(Aspa-ATet)-GLP-1(7-37);
 Gly⁸Arg²⁶Lys^{34,38}-bis-(Aspa-ATet)-GLP-1(7-38); Gly⁸Arg³⁴Lys^{28,38}-bis-(Aspa-ATet)-GLP-1(7-38);
 Gly⁸Arg²⁶Lys^{34,38}-bis-(Aspa-ATet)-GLP-1(7-38); Gly⁸Arg²⁶Lys^{34,39}-bis-(Aspa-ATet)-GLP-1(7-38);
 Gly⁸Arg²⁶Lys^{36,38}-bis-(Aspa-ATet)-GLP-1(7-38); Gly⁸Arg²⁶Lys^{34,39}-bis-(Aspa-ATet)-GLP-1(7-38);
- Arg²⁶Lys^{23,34}-bis-(Aspa-ATet)-GLP-1(7-38);
 Arg³⁴Lys^{23,28}-bis-(Aspa-ATet)-GLP-1(7-38);

 Arg²⁶Lys^{23,34}-bis-(Aspa-ATet)-GLP-1(7-39); Arg³⁴Lys^{23,26}-bis-(Aspa-ATet)-GLP-1(7-39);
 Arg³⁴Lys^{27,26}-bis-(Aspa-ATet)-GLP-1(7-36);

 5
 Arg²⁶Lys^{27,34}-bis-(Aspa-ATet)-GLP-1(7-36);
 Arg³⁴Lys^{27,26}-bis-(Aspa-ATet)-GLP-1(7-36);

 5
 Arg²⁶Lys^{27,34}-bis-(Aspa-ATet)-GLP-1(7-37);
 Arg³⁴Lys^{27,26}-bis-(Aspa-ATet)-GLP-1(7-37);

 6
 Arg²⁶Lys^{27,34}-bis-(Aspa-ATet)-GLP-1(7-38);
 Arg³⁴Lys^{27,26}-bis-(Aspa-ATet)-GLP-1(7-38);

 7
 Arg²⁶Lys^{27,34}-bis-(Aspa-ATet)-GLP-1(7-38);
 Arg³⁴Lys^{27,26}-bis-(Aspa-ATet)-GLP-1(7-38);

 8
 Arg²⁶Lys^{27,34}-bis-(Aspa-ATet)-GLP-1(7-38);
 Arg³⁴Lys^{27,26}-bis-(Aspa-ATet)-GLP-1(7-38);

 9
 Arg²⁶Lys^{27,34}-bis-(Aspa-ATet)-GLP-1(7-38);
 Arg³⁴Lys^{27,26}-bis-(Aspa-ATet)-GLP-1(7-38);

 9
 Arg²⁶Lys^{27,34}-bis-(Aspa-ATet)-GLP-1(7-38);
 Arg³⁴Lys^{27,26}-bis-(Aspa-ATet)-GLP-1(7-38);

 9
 Gly⁸Lys^{26,34}-bis-(Aspa-ATet)-GLP-1(7-36);
 Gly⁸Lys^{26,34}-bis-(Aspa-ATet)-GLP-1(7-37);

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Arg³⁴Lys^{23,26}-bis-(Aspa-ATet)-GLP-1(7-36); Arg³⁴Lys^{23,26}-bis-(Aspa-ATet)-GLP-1(7-37);

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Arg²⁶Lys^{23,34}-bis-(Aspa-ATet)-GLP-1(7-36);

Arg²⁶Lys^{23,34}-bis-(Aspa-ATet)-GLP-1(7-37);

Arg²⁶Lys^{18,34}-bis-(Aspa-AHex)-GLP-1(7-39); Arg³⁴Lys^{18,26}-bis-(Aspa-AHex)-GLP-1(7-39); 20 Arg²⁸Lys^{23,34}-bis-(Aspa-AHex)-GLP-1(7-36); Arg³⁴Lys^{23,26}-bis-(Aspa-AHex)-GLP-1(7-36); Arg²⁶Lys^{23,34}-bis-(Aspa-AHex)-GLP-1(7-37); Arg³⁴Lys^{23,26}-bis-(Aspa-AHex)-GLP-1(7-37); Arg²⁶Lys^{23,34}-bis-(Aspa-AHex)-GLP-1(7-38); Arg³⁴Lys^{23,26}-bis-(Aspa-AHex)-GLP-1(7-38); Arg²⁶Lys^{23,24}-bis-(Aspa-AHex)-GLP-1(7-39); Arg³⁴Lys^{23,28}-bis-(Aspa-AHex)-GLP-1(7-39); Arg²⁶Lys^{27,34}-bis-(Aspa-AHex)-GLP-1(7-36); 25 Arg³⁴Lys^{27,26}-bis-(Aspa-AHex)-GLP-1(7-36); Arg²⁶Lys^{27,34}-bis-(Aspa-AHex)-GLP-1(7-37); Arg³⁴Lys^{27,26}-bis-(Aspa-AHex)-GLP-1(7-37); Arg²⁶Lys^{27,34}-bis-(Aspa-AHex)-GLP-1(7-38); Arg³⁴Lys^{27,28}-bis-(Aspa-AHex)-GLP-1(7-38); Arg²⁶Lys^{27,34}-bis-(Aspa-AHex)-GLP-1(7-39); Arg³⁴Lys^{27,26}-bis-(Aspa-AHex)-GLP-1(7-39); Gly⁸Lys^{26,34}-bis-(Aspa-AHex)-GLP-1(7-36): Gly⁸Lys^{26,34}-bis-(Aspa-AHex)-GLP-1(7-37); Gly⁸Lys^{26,34}-bis-(Aspa-AHex)-GLP-1(7-38); Gly⁸Lys^{26,34}-bis-(Aspa-AHex)-GLP-1(7-39) 30 Gly⁸Arg²⁶Lys^{34,36}-bis-(Aspa-AHex)-GLP-1(7-36); Gly⁸Arg³⁴Lys^{26,36}-bis-(Aspa-AHex)-GLP-1(7-36); Gly⁸Arg²⁶Lys^{34,36}-bis-(Aspa-AHex)-GLP-1(7-37); Gly⁸Arg³⁴Lys^{28,36}-bis-(Aspa-AHex)-GLP-1(7-37); Gly⁸Arg²⁶Lys^{34,37}-bis-(Aspa-AHex)-GLP-1(7-37); Gly⁸Arg³⁴Lys^{28,37}-bis-(Aspa-AHex)-GLP-1(7-37);

Gly[®]Arg²⁶Lys^{34,38}-bis-(Aspa-AHex)-GLP-1(7-38); Gly[®]Arg³⁴Lys^{26,38}-bis-(Aspa-AHex)-GLP-1(7-38);

- Arg²⁶Lys^{34,36}-bis-(Aspa-AHex)-GLP-1(7-37); Arg³⁴Lys^{26,36}-bis-(Aspa-AHex)-GLP-1(7-37); Arg²⁶Lys^{34,37}-bis-(Aspa-AHex)-GLP-1(7-37): Arg³⁴Lys^{26,37}-bis-(Aspa-AHex)-GLP-1(7-37); Arg²⁶Lys^{34,39}-bis-(Aspa-AHex)-GLP-1(7-39); Arg³⁴Lys^{26,39}-bis-(Aspa-AHex)-GLP-1(7-39); 15 Arg^{26,34}Lys^{36,39}-bis-(Aspa-AHex)-GLP-1(7-39); Arg²⁶Lys^{18,34}-bis-(Aspa-AHex)-GLP-1(7-36); Arg³⁴Lys^{18,26}-bis-(Aspa-AHex)-GLP-1(7-36); Arg²⁶Lys^{18,34}-bis-(Aspa-AHex)-GLP-1(7-37); Arg³⁴Lys^{18,26}-bis-(Aspa-AHex)-GLP-1(7-37); Arg²⁶Lys^{18,34}-bis-(Aspa-AHex)-GLP-1(7-38); Arg³⁴Lys^{18,26}-bis-(Aspa-AHex)-GLP-1(7-38);
- Lvs^{28,34}-bis-(Aspa-AHex)-GLP-1(7-36); Lvs^{26,34}-bis-(Aspa-AHex)-GLP-1(7-37); Lys^{26,34}-bis-10 (Aspa-AHex)-GLP-1(7-38); Lys^{28,34}-bis-(Aspa-AHex)-GLP-1(7-39)
- Thr⁸Lys^{26,34}-bis-(Aspa-ATet)-GLP-1(7-38); Thr⁸Lys^{26,34}-bis-(Aspa-ATet)-GLP-1(7-39) Thr⁸Arg²⁶Lys^{34,36}-bis-(Aspa-ATet)-GLP-1(7-36); Thr⁸Arg³⁴Lys^{26,36}-bis-(Aspa-ATet)-GLP-1(7-36); Thr⁸Arg²⁶Lys^{34,36}-bis-(Aspa-ATet)-GLP-1(7-37); Thr⁸Arg³⁴Lys^{26,36}-bis-(Aspa-ATet)-GLP-1(7-37); Thr⁸Arg²⁶Lys^{34,37}-bis-(Aspa-ATet)-GLP-1(7-37); Thr⁸Arg³⁴Lys^{26,37}-bis-(Aspa-ATet)-GLP-1(7-37); 5 Thr⁸Arg²⁶Lys^{34,38}-bis-(Aspa-ATet)-GLP-1(7-38); Thr⁸Arg³⁴Lys^{26,38}-bis-(Aspa-ATet)-GLP-1(7-38); Thr^aArg^{26,34}Lys^{36,38}-bis-(Aspa-ATet)-GLP-1(7-38); Thr⁸Arg²⁶Lys^{34,39}-bis-(Aspa-ATet)-GLP-1(7-39); Thr^aArg³⁴Lys^{26,39}-bis-(Aspa-ATet)-GLP-1(7-39); Thr^aArg^{26,34}Lys^{36,39}-bis-(Aspa-ATet)-GLP-1(7-39);
- Thr⁸Lys^{20,34}-bis-(Aspa-ATet)-GLP-1(7-36): Thr⁸Lys^{26,34}-bis-(Aspa-ATet)-GLP-1(7-37);

Arg26Lys34,36-bis-(Aspa-AHex)-GLP-1(7-36);

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Arg³⁴Lys^{26,36}-bis-(Aspa-AHex)-GLP-1(7-36);

Arg²⁶Lys^{34,36}-bis-(Aspa-AOct)-GLP-1(7-36); Arg²⁶Lys^{34,36}-bis-(Aspa-AOct)-GLP-1(7-37);

AOct)-GLP-1(7-38); Lys^{26,34}-bis-(Aspa-AOct)-GLP-1(7-39)

Arg³⁴Lys^{26,36}-bis-(Aspa-AOct)-GLP-1(7-36); Arg³⁴Lys^{26,36}-bis-(Aspa-AOct)-GLP-1(7-37);

1(7-39); 30 Lys^{28,34}-bis-(Aspa-AOct)-GLP-1(7-36); Lys^{26,34}-bis-(Aspa-AOct)-GLP-1(7-37); Lys^{26,34}-bis-(Aspa-

- Thr⁸Arg²⁶Lys^{34,36}-bis-(Aspa-AHex)-GLP-1(7-37); Thr⁸Arg³⁴Lys^{26,36}-bis-(Aspa-AHex)-GLP-1(7-37); Thr⁸Arg²⁶Lys^{34,37}-bis-(Aspa-AHex)-GLP-1(7-37); Thr⁸Arg³⁴Lys^{26,37}-bis-(Aspa-AHex)-GLP-1(7-37); Thr⁸Arg²⁶Lys^{34,38}-bis-(Aspa-AHex)-GLP-1(7-38); Thr⁸Arg³⁴Lys^{26,38}-bis-(Aspa-AHex)-GLP-1(7-38); Thr^aArg^{26,34}Lys^{36,38}-bis-(Aspa-AHex)-GLP-1(7-38); Thr^aArg²⁶Lys^{34,39}-bis-(Aspa-AHex)-GLP-1(7-39); Thr⁸Arg³⁴Lys^{26,39}-bis-(Aspa-AHex)-GLP-1(7-39); Thr⁸Arg^{26,34}Lys^{36,39}-bis-(Aspa-AHex)-GLP-
- bis-(Aspa-AHex)-GLP-1(7-39); Thr^BLys^{26,34}-bis-(Aspa-AHex)-GLP-1(7-37); Thr⁸Lys^{26,34}-bis-(Aspa-AHex)-GLP-1(7-36); Thr^aLys^{26,34}-bis-(Aspa-AHex)-GLP-1(7-38); Thr^aLys^{26,34}-bis⁻(Aspa-AHex)-GLP-1(7-39) Thr⁸Arg²⁶Lys^{34,36}-bis-(Aspa-AHex)-GLP-1(7-36); Thr⁸Arg³⁴Lys^{26,36}-bis-(Aspa-AHex)-GLP-1(7-36); 25
- Ser⁸Arg³⁴Lys^{26,36}-bis-(Aspa-AHex)-GLP-1(7-Ser⁸Arg²⁶Lys^{34,36}-bis-(Aspa-AHex)-GLP-1(7-36); 15 36); Ser⁸Arg²⁶Lys^{34,36}-bis-(Aspa-AHex)-GLP-1(7-37); Ser⁸Arg³⁴Lys^{26,36}-bis-(Aspa-AHex)-GLP-1(7-37); Ser⁸Arg²⁶Lys^{34,37}-bis-(Aspa-AHex)-GLP-1(7-37); Ser⁸Arg³⁴Lys^{26,37}-bis-(Aspa-AHex)-Ser⁸Arg³⁴Lys^{26,38}-bis-(Aspa-GLP-1(7-37); Ser[®]Arg²⁶Lys^{34,38}-bis-(Aspa-AHex)-GLP-1(7-38); AHex)-GLP-1(7-38); Ser⁸Arg^{26,34}Lys^{36,38}-bis-(Aspa-AHex)-GLP-1(7-38); Ser⁸Arg²⁶Lys^{34,39}-bis-(Aspa-AHex)-GLP-1(7-39); Ser⁸Arg³⁴Lys^{26,39}-bis-(Aspa-AHex)-GLP-1(7-39); Ser⁸Arg^{26,34}Lys^{36,39}-20
- 1(7-39); Ser⁸Lys^{26,34}-bis-(Aspa-AHex)-GLP-1(7-37); Ser^aLys^{26,34}-bis-(Aspa-AHex)-GLP-1(7-36); Ser^aLys^{26,34}-bis-(Aspa-AHex)-GLP-1(7-38); Ser^aLys^{26,34}-bis-(Aspa-AHex)-GLP-1(7-39)
- Val⁸Arg²⁶Lys^{34,36}-bis-(Aspa-AHex)-GLP-1(7-36); Val⁶Arg³⁴Lys^{26,36}-bis-(Aspa-AHex)-GLP-1(7-36); Val[®]Arg^{2®}Lys^{34,36}-bis-(Aspa-AHex)-GLP-1(7-37); Val[®]Arg³⁴Lys^{28,36}-bis-(Aspa-AHex)-GLP-1(7-37); Val⁸Arg²⁶Lys^{34,37}-bis-(Aspa-AHex)-GLP-1(7-37); Val⁸Arg³⁴Lys^{26,37}-bis-(Aspa-AHex)-GLP-1(7-37); Val⁸Arg²⁶Lys^{34,38}-bis-(Aspa-AHex)-GLP-1(7-38); Val⁸Arg³⁴Lys^{26,38}-bis-(Aspa-AHex)-GLP-1(7-38); Val⁸Arg^{26,34}Lys^{36,38}-bis-(Aspa-AHex)-GLP-1(7-38); Val⁸Arg²⁶Lys^{34,39}-bis-(Aspa-AHex)-GLP-1(7-10 39); Val[®]Arg³⁴Lys^{26,39}-bis-(Aspa-AHex)-GLP-1(7-39); Val[®]Arg^{26,34}Lys^{36,39}-bis-(Aspa-AHex)-GLP-
- 1(7-39); Val⁸Lys^{26,34}-bis-(Aspa-AHex)-GLP-1(7-37); Val⁸Lys^{26,34}-bis-(Aspa-AHex)-GLP-1(7-36);

Val⁸Lys^{26,34}-bis-(Aspa-AHex)-GLP-1(7-38); Val⁸Lys^{26,34}-bis-(Aspa-AHex)-GLP-1(7-39)

Gly⁸Arg^{26,34}Lys^{38,38}-bis-(Aspa-AHex)-GLP-1(7-38); Gly⁸Arg²⁶Lys^{34,39}-bis-(Aspa-AHex)-GLP-1(7-39); Gly8Arg34Lys28,39-bis-(Aspa-AHex)-GLP-1(7-39); Gly8Arg26,34Lys36,39-bis-(Aspa-AHex)-GLP-

1(7-39); Val⁸Lys^{26,34}-bis-(Aspa-AOct)-GLP-1(7-36); Val⁸Lys^{26,34}-bis-(Aspa-AOct)-GLP-1(7-37); 25 Val⁸Lys^{26,34}-bis-(Aspa-AOct)-GLP-1(7-38); Val⁸Lys^{26,34}-bis-(Aspa-AOct)-GLP-1(7-39) Val[®]Arg²⁶Lys^{34,36}-bis-(Aspa-AOct)-GLP-1(7-36); Val[®]Arg³⁴Lys^{28,36}-bis-(Aspa-AOct)-GLP-1(7-36); Val⁸Arg²⁶Lys^{34,36}-bis-(Aspa-AOct)-GLP-1(7-37); Val⁸Arg³⁴Lys^{26,36}-bis-(Aspa-AOct)-GLP-1(7-37); Val⁶Arg²⁶Lys^{34,37}-bis-(Aspa-AOct)-GLP-1(7-37); Val⁶Arg³⁴Lys^{26,37}-bis-(Aspa-AOct)-GLP-1(7-37); Val⁸Arg²⁶Lys^{34,38}-bis-(Aspa-AOct)-GLP-1(7-38); Val⁸Arg³⁴Lys^{26,38}-bis-(Aspa-AOct)-GLP-1(7-38); 30 Val⁸Arg^{26,34}Lys^{36,38}-bis-(Aspa-AOct)-GLP-1(7-38); Val⁸Arg²⁶Lys^{34,39}-bis-(Aspa-AOct)-GLP-1(7-39); Val⁸Arg³⁴Lys^{26,39}-bis-(Aspa-AOct)-GLP-1(7-39); Val⁸Arg^{26,34}Lys^{36,39}-bis-(Aspa-AOct)-GLP-1(7-39);

Gly⁸Lys^{26,34}-bis-(Aspa-AOct)-GLP-1(7-36); Gly⁸Lys^{26,34}-bis-(Aspa-AOct)-GLP-1(7-37); Gly⁸Lys^{26,34}-bis-(Aspa-AOct)-GLP-1(7-38); Gly⁸Lys^{26,34}-bis-(Aspa-AOct)-GLP-1(7-39) Gly⁸Arg²⁶Lys^{24,36}-bis-(Aspa-AOct)-GLP-1(7-36); Gly⁸Arg³⁴Lys^{26,36}-bis-(Aspa-AOct)-GLP-1(7-36); Gly⁸Arg²⁶Lys^{34,36}-bis-(Aspa-AOct)-GLP-1(7-37); Gly⁸Arg³⁴Lys^{26,36}-bis-(Aspa-AOct)-GLP-1(7-37); Gly⁸Arg²⁶Lys^{34,37}-bis-(Aspa-AOct)-GLP-1(7-37); Gly⁸Arg³⁴Lys^{26,37}-bis-(Aspa-AOct)-GLP-1(7-37); 20 Gly⁸Arg²⁶Lys^{34,38}-bis-(Aspa-AOct)-GLP-1(7-38); Gly⁸Arg³⁴Lys^{26,38}-bis-(Aspa-AOct)-GLP-1(7-38); Gly⁸Arg^{26,34}Lys^{36,38}-bis-(Aspa-AOct)-GLP-1(7-38); Gly8Arg26Lys34,39-bis-(Aspa-AOct)-GLP-1(7-39); Gly⁸Arg³⁴Lys^{26,39}-bis-(Aspa-AOct)-GLP-1(7-39); Gly⁸Arg^{26,34}Lys^{36,39}-bis-(Aspa-AOct)-GLP-

Arg²⁶Lys^{23,34}-bis-(Aspa-AOct)-GLP-1(7-36); Arg³⁴Lys^{23,26}-bis-(Aspa-AOct)-GLP-1(7-36); Arg²⁶Lys^{23,34}-bis-(Aspa-AOct)-GLP-1(7-37); Arg³⁴Lys^{23,28}-bis-(Aspa-AOct)-GLP-1(7-37); Arg²⁶Lvs^{23,34}-bis-(Aspa-AOct)-GLP-1(7-38); Arg³⁴Lys^{23,26}-bis-(Aspa-AOct)-GLP-1(7-38); Arg²⁶Lys^{23,34}-bis-(Aspa-AOct)-GLP-1(7-39); Arg³⁴Lys^{23,26}-bis-(Aspa-AOct)-GLP-1(7-39); Arg26Lys27,34-bis-(Aspa-AOct)-GLP-1(7-36); Arg³⁴Lys^{27,28}-bis-(Aspa-AOct)-GLP-1(7-36); Arg²⁶Lys^{27,34}-bis-(Aspa-AOct)-GLP-1(7-37); Arg³⁴Lys^{27,26}-bis-(Aspa-AOct)-GLP-1(7-37); Arg26Lys27,34-bis-(Aspa-AOct)-GLP-1(7-38); Arg³⁴Lys^{27,26}-bis-(Aspa-AOct)-GLP-1(7-38); Arg²⁶Lys^{27,34}-bis-(Aspa-AOct)-GLP-1(7-39); Arg³⁴Lys^{27,26}-bis-(Aspa-AOct)-GLP-1(7-39);

Arg²⁶Lys^{18,34}-bis-(Aspa-AOct)-GLP-1(7-39); Arg³⁴Lys^{18,26}-bis-(Aspa-AOct)-GLP-1(7-39);

Arg²⁶Lys^{34,37}-bis-(Aspa-AOct)-GLP-1(7-37); Arg26Lys34.39-bis-(Aspa-AOct)-GLP-1(7-39); Arg^{26,34}Lys^{36,39}-bis-(Aspa-AOct)-GLP-1(7-39); Arg²⁶Lys^{18,34}-bis-(Aspa-AOct)-GLP-1(7-36); Arg³⁴Lys^{18,26}-bis-(Aspa-AOct)-GLP-1(7-36); Arg²⁶Lys^{18,34}-bis-(Aspa-AOct)-GLP-1(7-37); Arg³⁴Lys^{18,26}-bis-(Aspa-AOct)-GLP-1(7-37); 5 Arg³⁴Lys^{18,26}-bis-(Aspa-AOct)-GLP-1(7-38); Arg²⁶Lvs^{18,34}-bis-(Aspa-AOct)-GLP-1(7-38);

Arg³⁴Lys^{26,37}-bis-(Aspa-AOct)-GLP-1(7-37); Arg³⁴Lys^{28,39}-bis-(Aspa-AOct)-GLP-1(7-39);

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	Arg ²⁶ Lys ^{34.39} -bis-(Aspa-ALit)-GLP-1(7-39);	Arg ³⁴ Lys ^{26,39} -bis-(Aspa-ALit)-GLP-1(7-39);
25	Arg ^{26,34} Lys ^{36,39} -bis-(Aspa-ALit)-GLP-1(7-39);	
	Arg ²⁶ Lys ^{18,34} -bis-(Aspa-ALit)-GLP-1(7-36);	Arg ³⁴ Lys ^{18,26} -bis-(Aspa-ALit)-GLP-1(7-36);
	Arg ²⁶ Lys ^{18,34} -bis-(Aspa-ALit)-GLP-1(7-37);	Arg ³⁴ Lys ^{18,26} -bis-(Aspa-ALit)-GLP-1(7-37);
	Arg ²⁶ Lys ^{18,34} -bis-(Aspa-ALit)-GLP-1(7-38);	Arg ³⁴ Lys ^{18,26} -bis-(Aspa-ALit)-GLP-1(7-38);
	Arg ²⁶ Lys ^{18,34} -bis-(Aspa-ALit)-GLP-1(7-39); Arg ³⁴ Lys ¹⁸	^{1,26} -bis-(Aspa-ALit)-GLP-1(7-39);
30	Arg ²⁶ Lys ^{23,34} -bis-(Aspa-ALit)-GLP-1(7-36);	Arg ³⁴ Lys ^{23,28} -bis-(Aspa-ALit)-GLP-1(7-36);
	Arg ²⁸ Lys ^{23,34} -bis-(Aspa-ALit)-GLP-1(7-37);	Arg ³⁴ Lys ^{23,28} -bis-(Aspa-ALit)-GLP-1(7-37);
	Arg ²⁸ Lys ^{23,34} -bis-(Aspa-ALit)-GLP-1(7-38);	Arg ³⁴ Lys ^{23,28} -bis-(Aspa-ALit)-GLP-1(7-38);
	Arg ²⁶ Lys ^{23,34} -bis-(Aspa-ALit)-GLP-1(7-39); Arg ³⁴ Lys ²²	^{3,28} -bis-(Aspa-ALit)-GLP-1(7-39);

- Lys^{26,34}-bis-(Aspa-ALit)-GLP-1(7-36);
 Lys^{26,34}-bis-(Aspa-ALit)-GLP-1(7-37);
 Lys^{26,34}-bis-(Aspa-ALit)-GLP-1(7-39)

 20
 ALit)-GLP-1(7-38);
 Lys^{26,34}-bis-(Aspa-ALit)-GLP-1(7-39)

 20
 Arg²⁶Lys^{34,36}-bis-(Aspa-ALit)-GLP-1(7-36);
 Arg³⁴Lys^{26,36}-bis-(Aspa-ALit)-GLP-1(7-36);

 20
 Arg²⁶Lys^{34,36}-bis-(Aspa-ALit)-GLP-1(7-36);
 Arg³⁴Lys^{26,36}-bis-(Aspa-ALit)-GLP-1(7-36);

 20
 Arg²⁶Lys^{34,36}-bis-(Aspa-ALit)-GLP-1(7-37);
 Arg³⁴Lys^{26,36}-bis-(Aspa-ALit)-GLP-1(7-37);

 20
 Arg²⁶Lys^{34,37}-bis-(Aspa-ALit)-GLP-1(7-37);
 Arg³⁴Lys^{26,37}-bis-(Aspa-ALit)-GLP-1(7-37);
- Thr⁸Arg²⁶Lys^{34,36}-bis-(Aspa-AOct)-GLP-1(7-37); Thr⁸Arg³⁴Lys^{26,36}-bis-(Aspa-AOct)-GLP-1(7-37); Thr⁸Arg²⁶Lys^{34,37}-bis-(Aspa-AOct)-GLP-1(7-37); Thr⁸Arg^{26,37}-bis-(Aspa-AOct)-GLP-1(7-37);
 Thr⁸Arg²⁶Lys^{34,38}-bis-(Aspa-AOct)-GLP-1(7-38); Thr⁸Arg³⁴Lys^{26,38}-bis-(Aspa-AOct)-GLP-1(7-38); Thr⁸Arg^{26,38}-bis-(Aspa-AOct)-GLP-1(7-38); Thr⁸Arg^{26,34}Lys^{36,38}-bis-(Aspa-AOct)-GLP-1(7-38); Thr⁸Arg^{26,34}Lys^{36,39}-bis-(Aspa-AOct)-GLP-1(7-39); Thr⁸Arg³⁴Lys^{26,34}Lys^{36,39}-bis-(Aspa-AOct)-GLP-1(7-39); Thr⁸Arg^{26,34}Lys^{36,39}-bis-(Aspa-AOct)-GLP-1(7-39);
- 39); Ser^aArg³⁴Lys^{26,39}-bis-(Aspa-AOct)-GLP-1(7-39); Ser^aArg²⁴⁴⁻¹-bis-(Aspa-AOct)-GLP-1(7-39);
 10 Thr^aLys^{26,34}-bis-(Aspa-AOct)-GLP-1(7-36); Thr^aLys^{26,34}-bis-(Aspa-AOct)-GLP-1(7-37);
 Thr^aLys^{28,34}-bis-(Aspa-AOct)-GLP-1(7-38); Thr^aLys^{26,35}-bis-(Aspa-AOct)-GLP-1(7-36);
 Thr^aArg²⁶Lys^{34,36}-bis-(Aspa-AOct)-GLP-1(7-36); Thr^aArg³⁴Lys^{26,36}-bis-(Aspa-AOct)-GLP-1(7-36);
- Ser⁸Lys^{28,34}-bis-(Aspa-AOct)-GLP-1(7-38); Ser⁸Lys^{28,34}-bis-(Aspa-AOct)-GLP-1(7-39)
 Ser⁸Arg²⁶Lys^{34,36}-bis-(Aspa-AOct)-GLP-1(7-36); Ser⁸Arg³⁴Lys^{28,38}-bis-(Aspa-AOct)-GLP-1(7-37);
 Ser⁸Arg²⁶Lys^{34,37}-bis-(Aspa-AOct)-GLP-1(7-37); Ser⁸Arg³⁴Lys^{28,37}-bis-(Aspa-AOct)-GLP-1(7-37);
 Ser⁸Arg²⁶Lys^{34,38}-bis-(Aspa-AOct)-GLP-1(7-37); Ser⁸Arg³⁴Lys^{28,38}-bis-(Aspa-AOct)-GLP-1(7-37);
 Ser⁸Arg²⁶Lys^{34,38}-bis-(Aspa-AOct)-GLP-1(7-38); Ser⁸Arg³⁴Lys^{28,38}-bis-(Aspa-AOct)-GLP-1(7-38);
 Ser⁸Arg^{28,34}Lys^{38,38}-bis-(Aspa-AOct)-GLP-1(7-38); Ser⁸Arg²⁶Lys^{34,39}-bis-(Aspa-AOct)-GLP-1(7-38);
 Ser⁸Arg^{28,34}Lys^{38,38}-bis-(Aspa-AOct)-GLP-1(7-38); Ser⁸Arg²⁶Lys^{34,39}-bis-(Aspa-AOct)-GLP-1(7-38);
- 167 Ser⁸Lys^{28,34}-bis-(Aspa-AOct)-GLP-1(7-36); Ser⁸Lys^{28,34}-bis-(Aspa-AOct)-GLP-1(7-37); Ser⁸Lys^{28,34}-bis-(Aspa-AOct)-GLP-1(7-38); Ser⁸Lys^{28,34}-bis-(Aspa-AOct)-GLP-1(7-39)

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Arg³⁴Lys^{27,26}-bis-(Aspa-ALit)-GLP-1(7-36);

Arg³⁴Lys^{27,26}-bis-(Aspa-ALit)-GLP-1(7-37); Arg³⁴Lys^{27,26}-bis-(Aspa-ALit)-GLP-1(7-38);

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Arg²⁶Lys^{27,34}-bis-(Aspa-ALit)-GLP-1(7-36); Arg²⁶Lys^{27,34}-bis-(Aspa-ALit)-GLP-1(7-37);

Arg²⁶Lys^{27,34}-bis-(Aspa-ALit)-GLP-1(7-38);

5

15

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25

bis-(Aspa-ALit)-GLP-1(7-38); Gly⁸Lys^{28,34}-bis-(Aspa-ALit)-GLP-1(7-39) Gly8Arg34Lys26,38-bis-(Aspa-ALit)-GLP-1(7-36); Gly8Arg26Lys34,36-bis-(Aspa-ALit)-GLP-1(7-36); Glv⁸Arg³⁴Lys^{26,36}-bis-(Aspa-ALit)-GLP-1(7-37); Glv⁸Arg²⁶Lys^{34,36}-bis-(Aspa-ALit)-GLP-1(7-37); Glv⁸Arg³⁴Lys^{26,37}-bis-(Aspa-ALit)-GLP-1(7-37); Glv⁸Arg²⁶Lys^{34,37}-bis-(Aspa-ALit)-GLP-1(7-37); Gly⁸Arg²⁶Lys^{34,38}-bis-(Aspa-ALit)-GLP-1(7-38), Giv⁸Arg³⁴Lys^{28,38}-bis-(Aspa-ALit)-GLP-1(7-38); 10 Gly⁸Arg²⁶Lys^{34,39}-bis-(Aspa-ALit)-GLP-1(7-39): Glv⁸Arg^{26,34}Lys^{36,38}-bis-(Aspa-ALit)-GLP-1(7-38); Gly8Arg34Lys26,39-bis-(Aspa-ALit)-GLP-1(7-39); Gly8Arg26,34Lys36,39-bis-(Aspa-ALit)-GLP-1(7-39);

Val[®]Lys^{26,34}-bis-(Aspa-ALit)-GLP-1(7-36); Val[®]Lys^{26,34}-bis-(Aspa-ALit)-GLP-1(7-37); Val[®]Lys^{26,34}-

bis-(Aspa-ALit)-GLP-1(7-38); Val⁸Lys^{26,34}-bis-(Aspa-ALit)-GLP-1(7-39)

Arg²⁶Lys^{27,34}-bis-(Aspa-ALit)-GLP-1(7-39); Arg³⁴Lys^{27,26}-bis-(Aspa-ALit)-GLP-1(7-39); Gly⁸Lys^{26,34}-bis-(Aspa-ALit)-GLP-1(7-36); Gly⁸Lys^{26,34}-bis-(Aspa-ALit)-GLP-1(7-37); Gly⁸Lys^{26,34}-

Val⁶Arg³⁴Lys^{26,39}-bis-(Aspa-ALit)-GLP-1(7-39); Val⁶Arg^{26,34}Lys^{36,39}-bis-(Aspa-ALit)-GLP-1(7-39); Ser⁸Lys^{26,34}-bis-(Aspa-ALit)-GLP-1(7-36); Ser⁸Lys^{26,34}-bis-(Aspa-ALit)-GLP-1(7-37); Ser⁸Lys^{26,34}bis-(Aspa-ALit)-GLP-1(7-38); Ser⁸Lys^{26,34}-bis-(Aspa-ALit)-GLP-1(7-39) Ser⁸Arg²⁶Lys^{34,36}-bis-(Aspa-ALit)-GLP-1(7-36); Ser⁸Arg²⁶Lys^{34,36}-bis-(Aspa-ALit)-GLP-1(7-37);

Ser⁸Arg²⁶Lys^{34,37}-bis-(Aspa-ALit)-GLP-1(7-37);

Ser⁸Arg²⁶Lys^{34,38}-bis-(Aspa-ALit)-GLP-1(7-38);

Val⁸Arg²⁶Lys^{34,36}-bis-(Aspa-ALit)-GLP-1(7-36);

Val⁸Arg²⁶Lys^{34,36}-bis-(Aspa-ALit)-GLP-1(7-37);

Val⁸Arg²⁶Lys^{34,37}-bis-(Aspa-ALit)-GLP-1(7-37);

Val⁸Arg²⁶Lys^{34,38}-bis-(Aspa-ALit)-GLP-1(7-38);

Val⁸Arg^{26,34}Lys^{36,38}-bis-(Aspa-ALit)-GLP-1(7-38);

Ser⁸Arg³⁴Lys^{26,36}-bis-(Aspa-ALit)-GLP-1(7-36); Ser⁸Arg³⁴Lys^{26,36}-bis-(Aspa-ALit)-GLP-1(7-37); Ser⁸Arg³⁴Lys^{26,37}-bis-(Aspa-ALit)-GLP-1(7-37); Ser⁸Arg³⁴Lys^{26,38}-bis-(Aspa-ALit)-GLP-1(7-38); Ser⁸Arg^{26,34}Lys^{36,38}-bis-(Aspa-ALit)-GLP-1(7-38); Ser⁸Arg²⁶Lys^{34,39}-bis-(Aspa-ALit)-GLP-1(7-39); Ser⁸Arg³⁴Lys^{26,39}-bis-(Aspa-ALit)-GLP-1(7-39); Ser⁸Arg^{26,34}Lys^{36,39}-bis-(Aspa-ALit)-GLP-1(7-39); Thr⁸Lys^{26,34}-bis-(Aspa-ALit)-GLP-1(7-36); Thr⁸Lys^{26,34}-bis-(Aspa-ALit)-GLP-1(7-37); Thr⁸Lys^{26,34}-

Val⁸Arg³⁴Lys^{26,36}-bis-(Aspa-ALit)-GLP-1(7-36);

Val[®]Arg³⁴Lys^{26,38}-bis-(Aspa-ALit)-GLP-1(7-37);

Val⁸Arg³⁴Lys^{26,37}-bis-(Aspa-ALit)-GLP-1(7-37);

Val⁸Arg³⁴Lys^{26,38}-bis-(Aspa-ALit)-GLP-1(7-38); Val⁸Arg²⁶Lys^{34,39}-bis-(Aspa-ALit)-GLP-1(7-39);

30 bis-(Aspa-ALit)-GLP-1(7-38); Thr⁸Lys^{26,34}-bis-(Aspa-ALit)-GLP-1(7-39) Thr8Arg28Lys34.36-bis-(Aspa-ALit)-GLP-1(7-36); Thr⁸Arg²⁶Lys^{34,36}-bis-(Aspa-ALit)-GLP-1(7-37); Thr^aArg²⁶Lys^{34,37}-bis-(Aspa-ALit)-GLP-1(7-37); Thr^aArg²⁶Lvs^{34,38}-bis-(Aspa-ALit)-GLP-1(7-38);

Thr⁸Arg³⁴Lys^{26,38}-bis-(Aspa-ALit)-GLP-1(7-36); Thr8Arg34Lys26,38-bis-(Aspa-ALit)-GLP-1(7-37); Thr⁸Arg³⁴Lvs^{26,37}-bis-(Aspa-ALit)-GLP-1(7-37); Thr⁸Arg³⁴Lvs^{26,38}-bis-(Aspa-ALit)-GLP-1(7-38);

Val⁸Lys^{28,34}-bis-(Glyc-ADod)-GLP-1(7-36); Val⁸Lys^{28,34}-bis-(Glyc-ADod)-GLP-1(7-37); Val⁸Lys^{28,34}-bis-(Glyc-ADod)-GLP-1(7-39) Val⁸Arg²⁶Lys^{34,36}-bis-(Glyc-ADod)-GLP-1(7-36); Val⁸Arg³⁴Lys^{28,38}-bis-(Glyc-ADod)-GLP-1(7-36); Val⁸Arg²⁶Lys^{34,36}-bis-(Glyc-ADod)-GLP-1(7-37); Val⁸Arg³⁴Lys^{28,38}-bis-(Glyc-ADod)-GLP-1(7-37);

- 30 1(7-39);
- Arg²⁶Lys^{27,34}-bis-(Glyc-ADod)-GLP-1(7-38); Arg³⁴Lys^{27,26}-bis-(Glyc-ADod)-GLP-1(7-38); Arg²⁶Lys^{27,34}-bis-(Glyc-ADod)-GLP-1(7-39); Arg³⁴Lys^{26,34}-bis-(Glyc-ADod)-GLP-1(7-39); Gly⁸Lys^{26,34}-bis-(Glyc-ADod)-GLP-1(7-37); Gly⁸Lys^{26,34}-bis-(Glyc-ADod)-GLP-1(7-37); Gly⁸Lys^{26,34}-bis-(Glyc-ADod)-GLP-1(7-39)
 Gly⁸Arg²⁶Lys^{34,36}-bis-(Glyc-ADod)-GLP-1(7-36); Gly⁸Arg³⁴Lys^{28,38}-bis-(Glyc-ADod)-GLP-1(7-36);
 Gly⁸Arg²⁶Lys^{34,36}-bis-(Glyc-ADod)-GLP-1(7-37); Gly⁸Arg³⁴Lys^{28,38}-bis-(Glyc-ADod)-GLP-1(7-37); Gly⁸Arg²⁶Lys^{34,37}-bis-(Glyc-ADod)-GLP-1(7-37); Gly⁸Arg³⁴Lys^{28,38}-bis-(Glyc-ADod)-GLP-1(7-37); Gly⁸Arg²⁶Lys^{34,38}-bis-(Glyc-ADod)-GLP-1(7-37); Gly⁸Arg²⁶Lys^{34,38}-bis-(Glyc-ADod)-GLP-1(7-38); Gly⁸Arg²⁶Lys^{34,38}-bis-(Glyc-ADod)-GLP-1(7-38); Gly⁸Arg²⁶Lys^{34,38}-bis-(Glyc-ADod)-GLP-1(7-38); Gly⁸Arg²⁶Lys^{34,38}-bis-(Glyc-ADod)-GLP-1(7-38); Gly⁸Arg²⁶Lys^{34,38}-bis-(Glyc-ADod)-GLP-1(7-38); Gly⁸Arg²⁶Lys^{34,38}-bis-(Glyc-ADod)-GLP-1(7-38); Gly⁸Arg²⁶Lys^{34,38}-bis-(Glyc-ADod)-GLP-1(7-38); Gly⁸Arg²⁶Lys^{34,39}-bis-(Glyc-ADod)-GLP-1(7-38); Gly⁸Arg²⁶Lys^{34,39}-bis-(Glyc-ADod)-GLP-1(7-38); Gly⁸Arg^{26,34}Lys^{36,39}-bis-(Glyc-ADod)-GLP-1(7-38); Gly⁸Arg^{26,34}Lys^{36,39}-bis-(Glyc-ADod)-GLP-1(7-38); Gly⁸Arg^{26,34}Lys^{36,39}-bis-(Glyc-ADod)-GLP-1(7-38); Gly⁸Arg^{26,34}Lys^{36,39}-bis-(Glyc-ADod)-GLP-1(7-39); Gly⁸Arg^{26,34}Lys^{36,39}-bis-(Glyc-ADod)-GLP-1(7-38); Gly⁸Arg^{26,34}Lys^{36,39}-bis-(Glyc-ADod)-GLP-1(7
- Arg²⁶Lys^{23,34}-bis-(Glyc-ADod)-GLP-1(7-37); Arg²⁶Lys^{23,34}-bis-(Glyc-ADod)-GLP-1(7-38); Arg²⁶Lys^{23,34}-bis-(Glyc-ADod)-GLP-1(7-39); Arg³⁴Lys^{23,26}-bis-(Glyc-ADod)-GLP-1(7-38); Arg²⁶Lys^{23,34}-bis-(Glyc-ADod)-GLP-1(7-39); Arg³⁴Lys^{23,26}-bis-(Glyc-ADod)-GLP-1(7-39); Arg²⁶Lys^{27,34}-bis-(Glyc-ADod)-GLP-1(7-36); Arg²⁶Lys^{27,34}-bis-(Glyc-ADod)-GLP-1(7-37);
 Arg²⁶Lys^{27,34}-bis-(Glyc-ADod)-GLP-1(7-37); Arg²⁶Lys^{27,34}-bis-(Glyc-ADod)-GLP-1(7-37);
 Arg²⁶Lys^{27,34}-bis-(Glyc-ADod)-GLP-1(7-38);
- Arg^{26,34}Lys^{36,39}-bis-(Glyc-ADod)-GLP-1(7-39);

 10
 Arg²⁶Lys^{18,34}-bis-(Glyc-ADod)-GLP-1(7-36);

 Arg²⁶Lys^{18,34}-bis-(Glyc-ADod)-GLP-1(7-37);

 Arg²⁶Lys^{18,34}-bis-(Glyc-ADod)-GLP-1(7-37);

 Arg²⁶Lys^{18,34}-bis-(Glyc-ADod)-GLP-1(7-38);

 Arg²⁶Lys^{18,34}-bis-(Glyc-ADod)-GLP-1(7-38);

 Arg²⁶Lys^{18,34}-bis-(Glyc-ADod)-GLP-1(7-39);

 Arg²⁶Lys^{18,34}-bis-(Glyc-ADod)-GLP-1(7-39);

 Arg²⁶Lys^{23,34}-bis-(Glyc-ADod)-GLP-1(7-36);
- Lys^{34,36}-bis-(Glyc-ADod)-GLP-1(7-36);
 Arg³⁴Lys^{26,36}-bis-(Glyc-ADod)-GLP-1(7-36);

 Arg²⁶Lys^{34,36}-bis-(Glyc-ADod)-GLP-1(7-37);
 Arg³⁴Lys^{26,36}-bis-(Glyc-ADod)-GLP-1(7-37);

 Arg²⁶Lys^{34,37}-bis-(Glyc-ADod)-GLP-1(7-37);
 Arg³⁴Lys^{26,37}-bis-(Glyc-ADod)-GLP-1(7-37);

 Arg²⁶Lys^{34,39}-bis-(Glyc-ADod)-GLP-1(7-37);
 Arg³⁴Lys^{26,37}-bis-(Glyc-ADod)-GLP-1(7-37);

 Arg²⁶Lys^{34,39}-bis-(Glyc-ADod)-GLP-1(7-37);
 Arg³⁴Lys^{26,39}-bis-(Glyc-ADod)-GLP-1(7-37);
- Thr⁸Arg^{26,34}Lys^{36,39}-bis-(Aspa-ALit)-GLP-1(7-38); Thr⁸Arg²⁶Lys^{34,39}-bis-(Aspa-ALit)-GLP-1(7-39); Thr⁸Arg³⁴Lys^{26,39}-bis-(Aspa-ALit)-GLP-1(7-39); Thr⁸Arg^{26,34}Lys^{36,39}-bis-(Aspa-ALit)-GLP-1(7-39); Lys^{26,34}-bis-(Glyc-ADod)-GLP-1(7-36); Lys^{26,34}-bis-(Glyc-ADod)-GLP-1(7-37); Lys^{26,34}-bis-(Glyc-

Arg²⁶Lys^{18,24}-bis-(Glyc-ATet)-GLP-1(7-39); Arg³⁴Lys^{18,26}-bis-(Glyc-ATet)-GLP-1(7-39);

 Arg²⁶Lys^{18,34}-bis-(Glyc-ATet)-GLP-1(7-36);
 Arg³⁴Lys^{18,26}-bis-(Glyc-ATet)-GLP-1(7-36);

 Arg²⁶Lys^{18,34}-bis-(Glyc-ATet)-GLP-1(7-37);
 Arg³⁴Lys^{18,26}-bis-(Glyc-ATet)-GLP-1(7-37);

 Arg²⁶Lys^{18,34}-bis-(Glyc-ATet)-GLP-1(7-38);
 Arg³⁴Lys^{18,26}-bis-(Glyc-ATet)-GLP-1(7-38);

 Arg²⁶Lys^{18,34}-bis-(Glyc-ATet)-GLP-1(7-38);
 Arg³⁴Lys^{18,26}-bis-(Glyc-ATet)-GLP-1(7-38);

- ATet)-GLP-1(7-38); Lys^{28,34}-bis-(Glyc-ATet)-GLP-1(7-39)
 Arg²⁶Lys^{34,36}-bis-(Glyc-ATet)-GLP-1(7-36);
 Arg²⁶Lys^{34,36}-bis-(Glyc-ATet)-GLP-1(7-37);
 Arg²⁶Lys^{34,37}-bis-(Glyc-ATet)-GLP-1(7-37);
 Arg²⁶Lys^{34,39}-bis-(Glyc-ATet)-GLP-1(7-39);
 Arg^{26,34}Lys^{36,39}-bis-(Glyc-ATet)-GLP-1(7-39);
 Arg^{26,34}Lys^{36,39}-bis-(Glyc-ATet)-GLP-1(7-39);
- Thr⁸Arg^{26,34}Lys^{36,38}-bis-(Glyc-ADod)-GLP-1(7-38); Thr⁸Arg²⁶Lys^{34,39}-bis-(Glyc-ADod)-GLP-1(7-39); Thr⁸Arg³⁴Lys^{26,39}-bis-(Glyc-ADod)-GLP-1(7-39); Thr⁸Arg^{26,34}Lys^{36,39}-bis-(Glyc-ADod)-GLP-1(7-39); Lys^{26,34}-bis-(Glyc-ATet)-GLP-1(7-36); Lys^{26,34}-bis-(Glyc-ATet)-GLP-1(7-37); Lys^{28,34}-bis-(Glyc-
- Thr⁸Lys^{28,34}-bis-(Glyc-ADod)-GLP-1(7-38); Thr⁸Lys^{28,34}-bis-(Glyc-ADod)-GLP-1(7-39)

 Thr⁸Arg²⁶Lys^{34,36}-bis-(Glyc-ADod)-GLP-1(7-36); Thr⁸Arg³⁴Lys^{28,36}-bis-(Glyc-ADod)-GLP-1(7-36);

 Thr⁸Arg²⁶Lys^{34,36}-bis-(Glyc-ADod)-GLP-1(7-37); Thr⁸Arg³⁴Lys^{28,36}-bis-(Glyc-ADod)-GLP-1(7-37);

 Thr⁸Arg²⁶Lys^{34,37}-bis-(Glyc-ADod)-GLP-1(7-37); Thr⁸Arg³⁴Lys^{28,37}-bis-(Glyc-ADod)-GLP-1(7-37);

 Thr⁸Arg²⁶Lys^{34,38}-bis-(Glyc-ADod)-GLP-1(7-37); Thr⁸Arg³⁴Lys^{28,38}-bis-(Glyc-ADod)-GLP-1(7-37);

 Thr⁸Arg²⁶Lys^{34,38}-bis-(Glyc-ADod)-GLP-1(7-38); Thr⁸Arg³⁴Lys^{26,38}-bis-(Glyc-ADod)-GLP-1(7-38);
- 1(7-39); 15 Thr⁸Lys^{26,34}-bis-(Glyc-ADod)-GLP-1(7-36); Thr⁸Lys^{26,34}-bis-(Glyc-ADod)-GLP-1(7-37);

Ser⁸Arg²⁶Lys^{34,36}-bis-(Glyc-ADod)-GLP-1(7-36); Ser⁸Arg³⁴Lys^{28,38}-bis-(Glyc-ADod)-GLP-1(7-36); Ser⁸Arg²⁶Lys^{34,38}-bis-(Glyc-ADod)-GLP-1(7-37); Ser⁸Arg³⁴Lys^{28,37}-bis-(Glyc-ADod)-GLP-1(7-37); Ser⁸Arg²⁶Lys^{34,37}-bis-(Glyc-ADod)-GLP-1(7-37); Ser⁸Arg²⁶Lys^{26,37}-bis-(Glyc-ADod)-GLP-1(7-37); Ser⁸Arg²⁶Lys^{34,38}-bis-(Glyc-ADod)-GLP-1(7-38); Ser⁸Arg²⁶Lys^{36,38}-bis-(Glyc-ADod)-GLP-1(7-38); Ser⁸Arg²⁶Lys^{34,39}-bis-(Glyc-ADod)-GLP-1(7-38); Ser⁸Arg²⁶Lys^{34,39}-bis-(Glyc-ADod)-GLP-1(7-38); Ser⁸Arg²⁶Lys^{34,39}-bis-(Glyc-ADod)-GLP-1(7-39); Ser⁸Arg²⁶Lys^{36,39}-bis-(Glyc-ADod)-GLP-1(7-39); Ser⁸Arg²⁶Lys^{36,39}-bis-(Glyc-ADod)-GLP-1(7-39); Ser⁸Arg²⁶Lys^{36,39}-bis-(Glyc-ADod)-GLP-1(7-39); Ser⁸Arg²⁶Lys^{36,39}-bis-(Glyc-ADod)-GLP-1(7-39); Ser⁸Arg^{26,34}Lys^{36,39}-bis-(Glyc-ADod)-GLP-1(7-39); Ser⁸Arg^{26,34}Lys^{36,39}-bis-(Glyc-ADod)-GLP-1(7-39); Ser⁸Arg^{26,34}Lys^{36,39}-bis-(Glyc-ADod)-GLP-1(7-39); Ser⁸Arg^{26,34}Lys^{36,39}-bis-(Glyc-ADod)-GLP-1(7-39); Ser⁸Arg^{26,34}Lys^{36,39}-bis-(Slyc-ADod)-GLP-1(7-39); Ser⁸Arg^{26,34}Lys^{36,39}-bis-(Slyc-ADod)-GLP-1(7-39); Ser⁸Arg^{26,34}Lys^{36,39}-bis-(Slyc-ADod)-GLP-1(7-39); Ser⁸Arg^{26,34}Lys^{36,39}-bis-(Slyc-ADod)-GLP-1(7-39); Ser⁸Arg^{26,34}Lys^{36,39}-bis-(Slyc-ADod)-GLP-1(7-39); Ser⁸Arg^{26,34}Lys^{36,39}-bis-(Slyc-ADod)-GLP-1(7-39); Ser⁸Arg^{26,34}Lys^{36,39}-bis-(Slyc-ADod)-GLP-1(7-39); Ser⁸Arg^{26,34}Lys^{36,39}-bis-(Slyc-ADod)-GLP-1(7-39); Ser⁸Arg^{26,34}Lys^{36,39}-bis-(Slyc-ADod)-SlP-1(7-39); Ser⁸Arg^{26,34}Lys^{36,39}-bis-(Slyc-ADod)-SlP-1(7-39); Ser⁸Arg^{26,34}Lys^{36,39}-bis-(Slyc-ADod)-SlP-1(7-39); Ser⁸Arg^{26,34}Lys^{36,39}-bis-(Slyc-ADod)-SlP-1(7-39); Ser⁸Arg^{26,34}Lys^{36,39}-bis-(Slyc-ADod)-SlP-1(7-39); Ser⁸Arg^{26,34}Lys^{36,39}-bis-(Slyc-ADod)-SlP-1(7-39); Ser⁸Arg^{26,34}Lys^{36,39}-bis-(Slyc-ADod)-SlP-1(7-39); Ser⁸Arg^{26,34}Lys^{36,39}-bis-(Slyc-ADod)-SlP-1(7-39); Ser⁸Arg^{36,39}-bis-(Slyc-ADod)-SlP-1(7-39); Ser⁸Arg^{36,39}-bis-(Slyc-ADod)-SlP-1(7-39); Ser⁸Arg^{36,39}-bis-(Slyc

Ser⁸Lys^{26,34}-bis-(Glyc-ADod)-GLP-1(7-38); Ser⁸Lys^{26,34}-bis-(Glyc-ADod)-GLP-1(7-39)

5 1(7-39); Ser⁸Lys^{26,34}-bis-(Glyc-ADod)-GLP-1(7-36);

Val⁸Arg²⁶Lys^{34,37}-bis-(Glyc-ADod)-GLP-1(7-37); Val⁸Arg³⁴Lys^{26,37}-bis-(Glyc-ADod)-GLP-1(7-37); Val⁸Arg²⁶Lys^{34,38}-bis-(Glyc-ADod)-GLP-1(7-38); Val⁸Arg³⁴Lys^{26,38}-bis-(Glyc-ADod)-GLP-1(7-38); Val⁸Arg^{26,34}Lys^{38,38}-bis-(Glyc-ADod)-GLP-1(7-38); Val⁸Arg²⁶Lys^{34,29}-bis-(Glyc-ADod)-GLP-1(7-39); Val⁸Arg³⁴Lys^{26,39}-bis-(Glyc-ADod)-GLP-1(7-39); Val⁸Arg^{26,34}Lys^{36,39}-bis-(Glyc-ADod)-GLP-

Ser^aLys^{26,34}-bis-(Glyc-ADod)-GLP-1(7-37);

- Ser⁸Arg²⁶Lys^{34,37}-bis-(Glyc-ATet)-GLP-1(7-37); Ser⁸Arg³⁴Lys^{26,37}-bis-(Glyc-ATet)-GLP-1(7-37);
 Ser⁸Arg²⁶Lys^{34,38}-bis-(Glyc-ATet)-GLP-1(7-38); Ser⁸Arg³⁴Lys^{26,38}-bis-(Glyc-ATet)-GLP-1(7-38); Ser⁸Arg²⁶Lys^{34,39}-bis-(Glyc-ATet)-GLP-1(7-39); Ser⁸Arg³⁴Lys^{26,39}-bis-(Glyc-ATet)-GLP-1(7-39); Ser⁸Arg³⁴Lys^{26,39}-bis-(Glyc-ATet)-GLP-1(7-39); Ser⁸Arg³⁴Lys^{26,34}-bis-(Glyc-ATet)-GLP-1(7-39); Thr⁸Lys^{26,34}-bis-(Glyc-ATet)-GLP-1(7-37); Thr⁸Lys^{26,34}-bis-(Glyc-ATet)-GLP-1(7-37); Thr⁸Lys^{26,34}-bis-(Glyc-ATet)-GLP-1(7-39)
- Val^aArg²⁶Lys^{26,34}-bis-(Glyc-ATet)-GLP-1(7-39); Val^aArg^{26,34}-bis-(Glyc-ATet)-GLP-1(7-37); Ser⁸Lys^{26,34}-bis-(Glyc-ATet)-GLP-1(7-38); Ser⁸Lys^{26,34}-bis-(Glyc-ATet)-GLP-1(7-39)
 Ser⁸Arg²⁶Lys^{34,36}-bis-(Glyc-ATet)-GLP-1(7-36); Ser⁸Arg²⁴Lys^{26,36}-bis-(Glyc-ATet)-GLP-1(7-36); Ser⁸Arg²⁶Lys^{34,36}-bis-(Glyc-ATet)-GLP-1(7-37); Ser⁸Arg²⁶Lys^{34,36}-bis-(Glyc-ATet)-GLP-1(7-37); Ser⁸Arg²⁶Lys^{26,38}-bis-(Glyc-ATet)-GLP-1(7-37); Ser⁸Arg²⁶Lys^{26,38}-bis-(Slyc-ATet)-Ser⁸Lys²⁸-bis-(Slyc-ATet)-Ser⁸Lys²⁸-bis-(Slyc-ATet)-Ser
- bis-(Glyc-ATet)-GLP-1(7-38); Val⁸Lys^{28,34}-bis-(Glyc-ATet)-GLP-1(7-39)
 Val⁸Arg²⁶Lys^{34,36}-bis-(Glyc-ATet)-GLP-1(7-36);
 Val⁸Arg²⁶Lys^{34,36}-bis-(Glyc-ATet)-GLP-1(7-37);
 Val⁸Arg²⁶Lys^{34,37}-bis-(Glyc-ATet)-GLP-1(7-37);
 Val⁸Arg²⁶Lys^{34,37}-bis-(Glyc-ATet)-GLP-1(7-37);
 Val⁸Arg²⁶Lys^{34,38}-bis-(Glyc-ATet)-GLP-1(7-37);
 Val⁸Arg²⁶Lys^{34,38}-bis-(Glyc-ATet)-GLP-1(7-38);
 Val⁸Arg²⁶Lys^{36,38}-bis-(Glyc-ATet)-GLP-1(7-38);
 Val⁸Arg²⁶Lys^{36,38}-bis-(Glyc-ATet)-GLP-1(7-38);
 Val⁸Arg²⁶Lys^{36,38}-bis-(Glyc-ATet)-GLP-1(7-38);
 Val⁸Arg²⁶Lys^{36,38}-bis-(Glyc-ATet)-GLP-1(7-38);
 Val⁸Arg²⁶Lys^{36,39}-bis-(Glyc-ATet)-GLP-1(7-39);
 Val⁸Arg³⁴Lys^{26,39}-bis-(Glyc-ATet)-GLP-1(7-39);
 Val⁸Arg³⁴Lys^{26,39}-bis-(Glyc-ATet)-GLP-1(7-39);
- Gly³Arg²⁶Lys^{34,39}-bis-(Glyc-ATet)-GLP-1(7-37); Gly³Arg³⁴Lys^{26,39}-bis-(Glyc-ATet)-GLP-1(7-37); Gly⁸Arg²⁶Lys^{34,39}-bis-(Glyc-ATet)-GLP-1(7-38); Gly⁸Arg^{26,39}-bis-(Glyc-ATet)-GLP-1(7-38); Gly⁸Arg^{26,39}-bis-(Glyc-ATet)-GLP-1(7-39); Gly⁸Arg^{26,39}-bis-(Glyc-ATet)-GLP-1(7-39); Gly⁸Arg^{26,39}-bis-(Glyc-ATet)-GLP-1(7-39); Val⁸Lys^{26,39}-bis-(Glyc-ATet)-GLP-1(7-39); Val⁸Lys^{26,34}-bis-(Glyc-ATet)-GLP-1(7-36); Val⁸Lys^{26,34}-bis-(Glyc-ATet)-GLP-1(7-37); Val⁸Lys^{28,34}-bis-(Glyc-ATet)-GLP-1(7-38); Val⁸Lys^{26,34}-bis-(Glyc-ATet)-GLP-1(7-39); Val⁸Lys^{26,34}-bis-(Glyc-ATet)-GLP-1(7-38); Val⁸Lys^{26,34}-bis-(Glyc-ATet)-GLP-1(7-39); Val⁸Lys^{26,34}-bis-(Glyc-ATet)-GLP-1(7-39)
- bis-(Glyc-ATet)-GLP-1(7-38); Gly⁸Lys^{26,34}-bis-(Glyc-ATet)-GLP-1(7-39)
 Gly⁸Arg²⁶Lys^{34,36}-bis-(Glyc-ATet)-GLP-1(7-36); Gly⁸Arg³⁴Lys^{26,36}-bis-(Gly⁸Arg²⁶Lys^{34,36}-bis-(Glyc-ATet)-GLP-1(7-37); Gly⁸Arg³⁴Lys^{26,37}-bis-(Glyc-ATet)-GLP-1(7-37); Gly⁸Arg³⁴Lys^{26,37}-bis-(Glyc-ATet)-GLP-1(7-37); Gly⁸Arg³⁴Lys^{26,37}-bis-(Glyc-ATet)-GLP-1(7-38); Gly⁸Arg³⁴Lys^{26,38}-bis-(Glyc-ATet)-GLP-1(7-38); Gly⁸Arg³⁴Lys^{26,38}-bis-(Glyc-ATet)-Gly⁸Arg³⁴Lys^{26,38}-bis-(Glyc-ATet)-Gly⁸Arg³⁴Lys³⁴-bis-(Glyc-ATet)-Gly⁸Arg³⁴Lys³⁴-bis-(Glyc-ATet)-Gly⁸Arg³⁴Lys³⁴-bis-(Glyc-ATet)-Gly⁸Arg³⁴Lys³⁴-bis-(Glyc-ATet)-Gly⁸Arg³⁴Lys³⁴-bis-(Glyc-ATet)-Gly⁸Arg³⁴Lys³⁴-bis-(Glyc-ATet)-Gly⁸Arg³⁴Lys³⁴-bis-(Glyc-ATet)-Gly⁸Arg³⁴Lys³⁴-bis-(Glyc-ATet)-Gly⁸Arg³⁴Lys³⁴-bis-(Glyc-ATet)-Gly⁸Arg³⁴Lys³⁴-bis-(Glyc-ATet)-Gly⁸Arg³⁴Lys³⁴-bis-(Glyc-ATet)-Gly⁸Arg³⁴Lys³⁴-bis-(Glyc-ATet)-Gly⁸Arg³⁴-bis-(Glyc-ATet)-Gly⁸Arg³⁴-bis-(Glyc-ATet)-Gly⁸Arg³⁴-bis-(Glyc-ATet)-Gly⁸Arg³⁴-bis-(Glyc-ATet)-Gly⁸Arg³⁴-bis-(Glyc-ATet)-Bly⁸Arg³⁴-bis-(Glyc-

Arg²⁶Lys^{23,34}-bis-(Glyc-ATet)-GLP-1(7-36);

Arg²⁶Lys^{23,34}-bis-(Glyc-ATet)-GLP-1(7-37);

Gly⁸Arg³⁴Lys^{26,36}-bis-(Glyc-ATet)-GLP-1(7-36); Gly⁸Arg³⁴Lys^{26,36}-bis-(Glyc-ATet)-GLP-1(7-37); Gly⁸Arg³⁴Lys^{26,37}-bis-(Glyc-ATet)-GLP-1(7-37); Gly⁸Arg³⁴Lys^{26,38}-bis-(Glyc-ATet)-GLP-1(7-38); Gly⁸Arg²⁶Lys^{34,39}-bis-(Glyc-ATet)-GLP-1(7-39);

 Arg²⁶Lys^{23,34}-bis-(Glyc-ATet)-GLP-1(7-38);
 Arg³⁴Lys^{23,26}-bis-(Glyc-ATet)-GLP-1(7-38);

 Arg²⁶Lys^{23,34}-bis-(Glyc-ATet)-GLP-1(7-39); Arg³⁴Lys^{23,26}-bis-(Glyc-ATet)-GLP-1(7-39);

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 Arg²⁶Lys^{27,34}-bis-(Glyc-ATet)-GLP-1(7-36);

 Arg²⁶Lys^{27,34}-bis-(Glyc-ATet)-GLP-1(7-37);
 Arg³⁴Lys^{27,26}-bis-(Glyc-ATet)-GLP-1(7-37);

 Arg²⁶Lys^{27,34}-bis-(Glyc-ATet)-GLP-1(7-38);
 Arg³⁴Lys^{27,26}-bis-(Glyc-ATet)-GLP-1(7-37);

 Arg²⁶Lys^{27,34}-bis-(Glyc-ATet)-GLP-1(7-38);
 Arg³⁴Lys^{27,26}-bis-(Glyc-ATet)-GLP-1(7-38);

 Arg²⁶Lys^{27,34}-bis-(Glyc-ATet)-GLP-1(7-39); Arg³⁴Lys^{27,26}-bis-(Glyc-ATet)-GLP-1(7-39);
 Gly⁸Lys^{26,34}-bis-(Glyc-ATet)-GLP-1(7-37); Gly

Arg³⁴Lys^{23,26}-bis-(Glyc-ATet)-GLP-1(7-36);

Arg³⁴Lys^{23,26}-bis-(Glyc-ATet)-GLP-1(7-37);

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Thr⁸Arg²⁶Lys^{34,36}-bis-(Glyc-ATet)-GLP-1(7-36); Thr⁸Arg²⁶Lys^{34,36}-bis-(Glyc-ATet)-GLP-1(7-37); Thr⁸Arg²⁶Lys^{34,37}-bis-(Glyc-ATet)-GLP-1(7-37); Thr⁸Arg²⁶Lys^{34,38}-bis-(Glyc-ATet)-GLP-1(7-38); Thr^aArg³⁴Lys^{28,38}-bis-(Glyc-ATet)-GLP-1(7-36); Thr⁸Arg³⁴Lys^{26,36}-bis-(Glyc-ATet)-GLP-1(7-37); Thr⁸Arg³⁴Lys^{26,37}-bis-(Glyc-ATet)-GLP-1(7-37); Thr⁸Arg³⁴Lys^{26,38}-bis-(Glyc-ATet)-GLP-1(7-38);

- Thr⁸Arg^{28,34}Lys^{36,38}-bis-(Glyc-ATet)-GLP-1(7-38); Thr⁸Arg²⁶Lys^{34,39}-bis-(Glyc-ATet)-GLP-1(7-39); Thr⁸Arg³⁴Lys^{26,39}-bis-(Glyc-ATet)-GLP-1(7-39); Thr⁸Arg^{26,34}Lys^{38,39}-bis-(Glyc-ATet)-GLP-1(7-39); Lys^{26,34}-bis-(Glyc-AHex)-GLP-1(7-36); Lys^{26,34}-bis-(Glyc-AHex)-GLP-1(7-37); Lys^{26,34}-bis-(Glyc-AHex)-GLP-1(7-38); Lys^{26,34}-bis-(Glyc-AHex)-GLP-1(7-39)
- Arg²⁶Lys^{34,36}-bis-(Glyc-AHex)-GLP-1(7-36); Arg²⁶Lys^{34,36}-bis-(Glyc-AHex)-GLP-1(7-37); 10 Arg²⁶Lys^{34,37}-bis-(Glyc-AHex)-GLP-1(7-37); Arg²⁶Lys^{34,39}-bis-(Glyc-AHex)-GLP-1(7-39); Arg^{26,34}Lys^{36,39}-bis-(Glyc-AHex)-GLP-1(7-39); Arg²⁶Lys^{18,34}-bis-(Glyc-AHex)-GLP-1(7-36);

Arg³⁴Lys^{26,37}-bis-(Glyc-AHex)-GLP-1(7-37); Arg³⁴Lys^{26,39}-bis-(Glyc-AHex)-GLP-1(7-39); Arg³⁴Lys^{18,26}-bis-(Glyc-AHex)-GLP-1(7-36);

Arg³⁴Lys^{26,36}-bis-(Glyc-AHex)-GLP-1(7-36);

Arg³⁴Lys^{26,36}-bis-(Glyc-AHex)-GLP-1(7-37);

Arg³⁴Lys^{18,26}-bis-(Glyc-AHex)-GLP-1(7-37); Arg²⁶Lys^{18,34}-bis-(Glyc-AHex)-GLP-1(7-37); Arg³⁴Lys^{18,26}-bis-(Glyc-AHex)-GLP-1(7-38); Arg²⁶Lys^{18,34}-bis-(Glyc-AHex)-GLP-1(7-38); Arg²⁶Lys^{18,34}-bis-(Glyc-AHex)-GLP-1(7-39); Arg³⁴Lys^{18,26}-bis-(Glyc-AHex)-GLP-1(7-39); Arg²⁶Lys^{23,34}-bis-(Glyc-AHex)-GLP-1(7-36); Arg³⁴Lys^{23,26}-bis-(Glyc-AHex)-GLP-1(7-36); Arg³⁴Lys^{23,26}-bis-(Glyc-AHex)-GLP-1(7-37); Arg²⁶Lys^{23,34}-bis-(Glyc-AHex)-GLP-1(7-37); Arg³⁴Lys^{23,26}-bis-(Glyc-AHex)-GLP-1(7-38); Arg²⁶Lys^{23,34}-bis-(Glyc-AHex)-GLP-1(7-38); Arg²⁶Lys^{23,34}-bis-(Glyc-AHex)-GLP-1(7-39); Arg³⁴Lys^{23,26}-bis-(Glyc-AHex)-GLP-1(7-39);

Arg³⁴Lys^{27,26}-bis-(Glyc-AHex)-GLP-1(7-36); Arg26Lys27,34-bis-(Glyc-AHex)-GLP-1(7-36); Arg³⁴Lys^{27,26}-bis-(Glyc-AHex)-GLP-1(7-37); Arg²⁶Lys^{27,34}-bis-(Glyc-AHex)-GLP-1(7-37); Arg34Lys27.26-bis-(Glyc-AHex)-GLP-1(7-38); Arg²⁶Lys^{27,34}-bis-(Glyc-AHex)-GLP-1(7-38); Arg²⁶Lys^{27,34}-bis-(Glyc-AHex)-GLP-1(7-39); Arg³⁴Lys^{27,26}-bis-(Glyc-AHex)-GLP-1(7-39); 25

Gly⁸Lys^{26,34}-bis-(Glyc-AHex)-GLP-1(7-36); Gly⁸Lys^{26,34}-bis-(Glyc-AHex)-GLP-1(7-37); Gly⁸Lys^{26,34}-bis-(Glyc-AHex)-GLP-1(7-38); Gly⁸Lys^{26,34}-bis-(Glyc-AHex)-GLP-1(7-39) Gly⁸Arg²⁶Lys^{34,36}-bis-(Glyc-AHex)-GLP-1(7-36); Gly⁸Arg³⁴Lys^{26,36}-bis-(Glyc-AHex)-GLP-1(7-36); Gly⁸Arg³⁴Lys^{26,36}-bis-(Glyc-AHex)-GLP-1(7-37); Gly⁸Arg²⁶Lys^{34,36}-bis-(Glyc-AHex)-GLP-1(7-37); Gly⁸Arg³⁴Lys^{26,37}-bis-(Glyc-AHex)-GLP-1(7-37); Gly⁸Arg²⁶Lys^{34,37}-bis-(Glyc-AHex)-GLP-1(7-37); 30 Gly⁸Arg²⁶Lys^{34,38}-bis-(Glyc-AHex)-GLP-1(7-38); Gly⁸Arg³⁴Lys^{26,38}-bis-(Glyc-AHex)-GLP-1(7-38); Gly8Arg26Lys34,39-bis-(Glyc-AHex)-GLP-1(7-Gly⁸Arg^{26,34}Lys^{36,38}-bis-(Glyc-AHex)-GLP-1(7-38); 39); Gly⁸Arg³⁴Lys^{26,39}-bis-(Glyc-AHex)-GLP-1(7-39); Gly⁸Arg^{26,34}Lys^{36,39}-bis-(Glyc-AHex)-GLP-1(7-39):

Arg²⁸Lys^{34,36}-bis-(Glyc-AOct)-GLP-1(7-36); Arg²⁶Lys^{34,36}-bis-(Glyc-AOct)-GLP-1(7-37); Arg²⁶Lys^{34,37}-bis-(Glyc-AOct)-GLP-1(7-37); Arg²⁸Lys^{34,39}-bis-(Glyc-AOct)-GLP-1(7-39); Arg^{28,34}Lys^{36,39}-bis-(Glyc-AOct)-GLP-1(7-39); Arg³⁴Lys^{26,36}-bis-(Glyc-AOct)-GLP-1(7-36); Arg³⁴Lys^{26,36}-bis-(Glyc-AOct)-GLP-1(7-37); Arg³⁴Lys^{26,37}-bis-(Glyc-AOct)-GLP-1(7-37); Arg³⁴Lys^{26,39}-bis-(Glyc-AOct)-GLP-1(7-39);

1(7-39); Lys^{26,34}-bis-(Glyc-AOct)-GLP-1(7-36); Lys^{26,34}-bis-(Glyc-AOct)-GLP-1(7-37); Lys^{26,34}-bis-(Glyc-AOct)-GLP-1(7-38); Lys^{28,34}-bis-(Glyc-AOct)-GLP-1(7-39)

- Thr⁸Arg²⁶Lys^{34,38}-bis-(Glyc-AHex)-GLP-1(7-38);
 Thr⁸Arg²⁶Lys^{26,38}-bis-(Glyc-AHex)-GLP-1(7-38);

 Thr⁸Arg^{26,34}Lys^{36,38}-bis-(Glyc-AHex)-GLP-1(7-38);
 Thr⁸Arg^{26,34}Lys^{36,39}-bis-(Glyc-AHex)-GLP-1(7-38);

 39);
 Thr⁸Arg³⁴Lys^{26,39}-bis-(Glyc-AHex)-GLP-1(7-39);
 Thr⁸Arg^{26,34}Lys^{36,39}-bis-(Glyc-AHex)-GLP-1(7-38);
- Thr⁸Lys^{26,34}-bis-(Glyc-AHex)-GLP-1(7-36);
 Thr⁸Lys^{26,34}-bis-(Glyc-AHex)-GLP-1(7-37);

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 Thr⁸Lys^{26,34}-bis-(Glyc-AHex)-GLP-1(7-38);
 Thr⁸Lys^{26,34}-bis-(Glyc-AHex)-GLP-1(7-39)

 20
 Thr⁸Arg²⁶Lys^{34,36}-bis-(Glyc-AHex)-GLP-1(7-38);
 Thr⁸Arg³⁴Lys^{26,36}-bis-(Glyc-AHex)-GLP-1(7-39)

 20
 Thr⁸Arg²⁶Lys^{34,36}-bis-(Glyc-AHex)-GLP-1(7-38);
 Thr⁸Arg³⁴Lys^{26,36}-bis-(Glyc-AHex)-GLP-1(7-36);

 20
 Thr⁸Arg²⁶Lys^{34,36}-bis-(Glyc-AHex)-GLP-1(7-38);
 Thr⁸Arg³⁴Lys^{26,36}-bis-(Glyc-AHex)-GLP-1(7-39);

 20
 Thr⁸Arg²⁶Lys^{34,36}-bis-(Glyc-AHex)-GLP-1(7-37);
 Thr⁸Arg³⁴Lys^{26,36}-bis-(Glyc-AHex)-GLP-1(7-37);

 20
 Thr⁸Arg²⁶Lys^{34,36}-bis-(Glyc-AHex)-GLP-1(7-37);
 Thr⁸Arg³⁴Lys^{26,36}-bis-(Glyc-AHex)-GLP-1(7-37);

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 Thr⁸Arg²⁶Lys^{34,38}-bis-(Glyc-AHex)-GLP-1(7-38);
 Thr⁸Arg³⁴Lys^{26,38}-bis-(Glyc-AHex)-GLP-1(7-37);

 20
 Thr⁸Arg²⁶Lys^{34,38}-bis-(Glyc-AHex)-GLP-1(7-37);
 Thr⁸Arg³⁴Lys^{26,38}-bis-(Glyc-AHex)-GLP-1(7-37);
- Ser⁸Arg²⁶Lys^{34,36}-bis-(Glyc-AHex)-GLP-1(7-37); Ser⁸Arg³⁴Lys^{28,36}-bis-(Glyc-AHex)-GLP-1(7-37); Ser⁸Arg²⁶Lys^{34,37}-bis-(Glyc-AHex)-GLP-1(7-37); Ser⁸Arg²⁶Lys^{26,37}-bis-(Glyc-AHex)-GLP-1(7-37); Ser⁸Arg²⁶Lys^{34,38}-bis-(Glyc-AHex)-GLP-1(7-38); Ser⁸Arg²⁶Lys^{34,38}-bis-(Glyc-AHex)-GLP-1(7-38); Ser⁸Arg²⁶Lys^{34,39}-bis-(Glyc-AHex)-GLP-1(7-38); Ser⁸Arg²⁶Lys^{34,39}-bis-(Glyc-AHex)-GLP-1(7-38); Ser⁸Arg²⁶Lys^{34,39}-bis-(Glyc-AHex)-GLP-1(7-38); Ser⁸Arg²⁶Lys^{36,39}-bis-(Glyc-AHex)-GLP-1(7-38); Ser⁸Arg²⁶Lys^{36,39}-bis-(Glyc-AHex)-GLP-1(7-38); Ser⁸Arg²⁶Lys^{36,39}-bis-(Glyc-AHex)-GLP-1(7-38); Ser⁸Arg²⁶Lys^{36,39}-bis-(Glyc-AHex)-GLP-1(7-39); Ser⁸Arg^{26,34}Lys^{36,39}-bis-(Glyc-AHex)-GLP-1(7-39); Ser⁸Arg^{36,39}-bis-(Glyc-AHex)-GLP-1(7-39); Ser⁸Arg^{36,39}-bis-(Glyc-AHex)-GLP-1(7-39); Ser⁸Arg^{36,39}-bis-(Glyc-AHex)-GLP-1(7-39); Ser⁸Arg^{36,39}-bis-(Ser⁸Arg^{36,39}-bis-(Ser⁸Arg^{36,39}-bis-(Ser⁸Arg^{36,39}-bis-(Ser⁸Arg^{36,39}-bis-(Ser⁸Arg^{36,39}-bis-(Ser⁸Arg^{36,39}-bis-(Ser⁸Arg^{36,39}-bis-(Ser⁸Arg^{36,39}-bis-(Ser⁸Arg^{36,39}-bis-(Ser⁸Arg^{36,39}-bis-(Ser⁸Arg^{36,39}-bis-(Ser⁸Arg^{36,39}-bis-(Ser⁸Arg^{36,39}-bis-(Ser⁸Arg^{36,39}-bis-(Ser⁸Arg^{36,39}-bis-(Ser⁸Arg^{36,3}
- 1(7-39);
 Ser⁸Lys^{26,34}-bis-(Glyc-AHex)-GLP-1(7-36);
 Ser⁸Lys^{26,34}-bis-(Glyc-AHex)-GLP-1(7-37);
 Ser⁸Lys^{26,34}-bis-(Glyc-AHex)-GLP-1(7-38);
 Ser⁸Arg²⁶Lys^{26,34}-bis-(Glyc-AHex)-GLP-1(7-36);
 Ser⁸Arg²⁶Lys^{26,36}-bis-(Glyc-AHex)-GLP-1(7-36);
- Val⁸Lys^{26,34}-bis-(Glyc-AHex)-GLP-1(7-38); Val⁸Lys^{26,34}-bis-(Glyc-AHex)-GLP-1(7-39) Val⁸Arg²⁶Lys^{34,36}-bis-(Glyc-AHex)-GLP-1(7-36); Val⁸Arg³⁴Lys^{26,36}-bis-(Glyc-AHex)-GLP-1(7-36); Val⁸Arg²⁶Lys^{34,37}-bis-(Glyc-AHex)-GLP-1(7-37); Val⁸Arg³⁴Lys^{26,37}-bis-(Glyc-AHex)-GLP-1(7-37); Val⁸Arg²⁶Lys^{34,38}-bis-(Glyc-AHex)-GLP-1(7-37); Val⁸Arg³⁴Lys^{26,38}-bis-(Glyc-AHex)-GLP-1(7-37); Val⁸Arg²⁶Lys^{34,38}-bis-(Glyc-AHex)-GLP-1(7-38); Val⁸Arg³⁴Lys^{26,38}-bis-(Glyc-AHex)-GLP-1(7-38); Val⁸Arg²⁶Lys^{34,38}-bis-(Glyc-AHex)-GLP-1(7-38); Val⁸Arg²⁶Lys^{34,39}-bis-(Glyc-AHex)-GLP-1(7-39); Val⁸Arg³⁴Lys^{26,39}-bis-(Glyc-AHex)-GLP-1(7-39); Val⁸Arg^{26,34}Lys^{36,39}-bis-(Glyc-AHex)-GLP-1(7-

Val⁸Lys^{26,34}-bis-(Glyc-AHex)-GLP-1(7-37);

Val^aLys^{26,34}-bis-(Glyc-AHex)-GLP-1(7-36);

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Arg²⁶Lys^{23,34}-bis-(Glyc-AOct)-GLP-1(7-37); Arg³⁴Lys^{23,26}-bis-(Glyc-AOct)-GLP-1(7-37); Arg²⁸Lvs^{23,34}-bis-(Glyc-AOct)-GLP-1(7-38); Arg³⁴Lys^{23,26}-bis-(Glyc-AOct)-GLP-1(7-38); Arg²⁶Lys^{23,34}-bis-(Glyc-AOct)-GLP-1(7-39); Arg³⁴Lys^{23,26}-bis-(Glyc-AOct)-GLP-1(7-39); Arg³⁴Lys^{27,26}-bis-(Glyc-AOct)-GLP-1(7-36); Arg²⁶Lys^{27,34}-bis-(Glyc-AOct)-GLP-1(7-36); Arg²⁶Lys^{27,34}-bis-(Glyc-AOct)-GLP-1(7-37); Arg³⁴Lys^{27,26}-bis-(Glyc-AOct)-GLP-1(7-37); 10 Arg²⁶Lys^{27,34}-bis-(Glyc-AOct)-GLP-1(7-38); Arg³⁴Lvs^{27,28}-bis-(Glvc-AOct)-GLP-1(7-38): Arg²⁶Lys^{27,34}-bis-(Glyc-AOct)-GLP-1(7-39); Arg³⁴Lys^{27,26}-bis-(Glyc-AOct)-GLP-1(7-39); Gly⁸Lys^{26,34}-bis-(Glyc-AOct)-GLP-1(7-36); Gly⁸Lys^{26,34}-bis-(Glyc-AOct)-GLP-1(7-37); Gly⁸Lys^{26,34}-bis-(Glyc-AOct)-GLP-1(7-38); Gly⁸Lys^{26,34}-bis-(Glyc-AOct)-GLP-1(7-39) Gly⁸Arg²⁶Lys^{34,36}-bis-(Glyc-AOct)-GLP-1(7-36); Gly⁸Arg³⁴Lys^{26,38}-bis-(Glyc-AOct)-GLP-1(7-36); 15 Glv⁸Arg²⁶Lys^{34,36}-bis-(Glyc-AOct)-GLP-1(7-37); Gly⁸Arg³⁴Lys^{28,38}-bis-(Glyc-AOct)-GLP-1(7-37); Gly⁸Arg²⁶Lys^{34,37}-bis-(Glyc-AOct)-GLP-1(7-37); Gly⁸Arg³⁴Lys^{26,37}-bis-(Glyc-AOct)-GLP-1(7-37); Gly⁸Arg²⁶Lys^{34,38}-bis-(Glyc-AOct)-GLP-1(7-38); Gly⁸Arg³⁴Lys^{28,38}-bis-(Glyc-AOct)-GLP-1(7-38); Gly⁸Arg^{26,34}Lys^{36,38}-bis-(Glyc-AOct)-GLP-1(7-38); Gly⁸Arg²⁶Lys^{34,39}-bis-(Glyc-AOct)-GLP-1(7-39); Gly⁸Arg³⁴Lys^{26,39}-bis-(Glyc-AOct)-GLP-1(7-39); Gly⁸Arg^{26,34}Lys^{36,39}-bis-(Glyc-AOct)-GLP-1(7-39); 20 Val⁶Lys^{26,34}-bis-(Glyc-AOct)-GLP-1(7-36); Val⁶Lys^{26,34}-bis-(Glyc-AOct)-GLP-1(7-37); Val⁶Lys^{26,34}bis-(Glyc-AOct)-GLP-1(7-38); Val⁸Lys^{26,34}-bis-(Glyc-AOct)-GLP-1(7-39) Val⁸Arg²⁶Lys^{34,36}-bis-(Glyc-AOct)-GLP-1(7-36); Val⁸Arg³⁴Lys^{26,36}-bis-(Glyc-AOct)-GLP-1(7-36); Val[®]Arg²⁶Lys^{34,36}-bis-(Glyc-AOct)-GLP-1(7-37); Val⁸Arg³⁴Lys^{26,36}-bis-(Glyc-AOct)-GLP-1(7-37); Val⁸Arg²⁶Lys^{34,37}-bis-(Glyc-AOct)-GLP-1(7-37); Val⁸Arg³⁴Lys^{28,37}-bis-(Glyc-AOct)-GLP-1(7-37); 25 Val⁸Arg²⁶Lys^{34,38}-bis-(Glyc-AOct)-GLP-1(7-38); Val⁸Arg³⁴Lys^{26,38}-bis-(Glyc-AOct)-GLP-1(7-38); Val⁸Arg^{28,34}Lys^{36,38}-bis-(Glyc-AOct)-GLP-1(7-38); Val⁸Arg²⁶Lys^{34,39}-bis-(Glyc-AOct)-GLP-1(7-39); Val⁸Arg³⁴Lys^{26,39}-bis-(Glyc-AOct)-GLP-1(7-39); Val⁸Arg^{26,34}Lys^{36,39}-bis-(Glyc-AOct)-GLP-1(7-39); Ser^aLys^{26,34}-bis-(Glyc-AOct)-GLP-1(7-36): Ser⁸Lys^{26,34}-bis-(Glyc-AOct)-GLP-1(7-37); Ser⁸Lys^{26,34}-bis-(Glyc-AOct)-GLP-1(7-38); Ser⁸Lys^{26,34}-bis-(Glyc-AOct)-GLP-1(7-39) 30

30 Ser⁸Lys^{26,34}-bis-(Glyc-AOct)-GLP-1(7-38); Ser⁸Lys^{26,34} Ser⁸Arg²⁶Lys^{34,36}-bis-(Glyc-AOct)-GLP-1(7-36); Ser⁸ Ser⁸Arg²⁶Lys^{34,36}-bis-(Glyc-AOct)-GLP-1(7-37); Ser⁶ Ser⁸Arg²⁶Lys^{34,37}-bis-(Glyc-AOct)-GLP-1(7-38); Ser⁶

Ser⁸Arg³⁴Lys^{26,36}-bis-(Glyc-AOct)-GLP-1(7-36); Ser⁸Arg³⁴Lys^{26,36}-bis-(Glyc-AOct)-GLP-1(7-37); Ser⁸Arg³⁴Lys^{26,37}-bis-(Glyc-AOct)-GLP-1(7-37); Ser⁸Arg³⁴Lys^{26,38}-bis-(Glyc-AOct)-GLP-1(7-38);

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Arg²⁶Lys^{18,34}-bis-(Glyc-AOct)-GLP-1(7-39); Arg³⁴Lys^{18,26}-bis-(Glyc-AOct)-GLP-1(7-39);

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Arg²⁶Lys^{18,34}-bis-(Glyc-AOct)-GLP-1(7-36);

Arg²⁶Lys^{18,34}-bis-(Glyc-AOct)-GLP-1(7-37);

Arg26Lys18,34-bis-(Glyc-AOct)-GLP-1(7-38);

Arg²⁶Lys^{23,34}-bis-(Glyc-AOct)-GLP-1(7-36);

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Arg³⁴Lys^{18,26}-bis-(Glyc-AOct)-GLP-1(7-36);

Arg³⁴Lys^{18,28}-bis-(Glyc-AOct)-GLP-1(7-37);

Arg^MLys^{18,28}-bis-(Glyc-AOct)-GLP-1(7-38);

Arg³⁴Lys^{23,26}-bis-(Glyc-AOct)-GLP-1(7-36);

Arg ²⁶ Lys ^{27,34} -bis-(Glyc-ALit)-GLP-1(7-39); Arg ³⁴ Lys ^{27,26} -bis-(Glyc-ALit)-GLP-1(7-39);		
Gly ⁸ Lys ^{26,34} -bis-(Glyc-ALit)-GLP-1(7-36); Gly ⁸ Ly	s ^{26,34} -bis-(Glyc-ALit)-GLP-1(7-37); Gly ⁸ Lys ^{26,34} -	
bis-(Glyc-ALit)-GLP-1(7-38); Gly ^s Lys ^{26,34} -bis-(Glyc-ALit)-GLP-1(7-39)		
Gly ⁸ Arg ²⁶ Lys ^{34,36} -bis-(Glyc-ALit)-GLP-1(7-36);	Gly ⁸ Arg ³⁴ Lys ^{26,36} -bis-(Glyc-ALit)-GLP-1(7-36);	
Gly ⁸ Arg ²⁸ Lys ^{34,36} -bis-(Glyc-ALit)-GLP-1(7-37);	Gly ⁸ Arg ³⁴ Lys ^{26,36} -bis-(Glyc-ALit)-GLP-1(7-37);	
Gly ⁸ Arg ²⁶ Lys ^{34,37} -bis-(Glyc-ALit)-GLP-1(7-37);	Gly ⁸ Arg ³⁴ Lys ^{26,37} -bis-(Glyc-ALit)-GLP-1(7-37);	

- Arg²⁶Lys^{23,34}-bis-(Glyc-ALit)-GLP-1(7-38);
 Arg³⁴Lys^{23,26}-bis-(Glyc-ALit)-GLP-1(7-38);

 25
 Arg²⁶Lys^{23,34}-bis-(Glyc-ALit)-GLP-1(7-39); Arg³⁴Lys^{23,26}-bis-(Glyc-ALit)-GLP-1(7-39);

 Arg²⁶Lys^{27,34}-bis-(Glyc-ALit)-GLP-1(7-36);
 Arg³⁴Lys^{27,26}-bis-(Glyc-ALit)-GLP-1(7-36);

 Arg²⁶Lys^{27,34}-bis-(Glyc-ALit)-GLP-1(7-37);
 Arg³⁴Lys^{27,26}-bis-(Glyc-ALit)-GLP-1(7-37);

 Arg²⁶Lys^{27,34}-bis-(Glyc-ALit)-GLP-1(7-38);
 Arg³⁴Lys^{27,26}-bis-(Glyc-ALit)-GLP-1(7-38);
- 20
 Arg²⁶Lys^{18,34}-bis-(Glyc-ALit)-GLP-1(7-38);
 Arg³⁴Lys^{18,26}-bis-(Glyc-ALit)-GLP-1(7-38);

 20
 Arg²⁶Lys^{18,34}-bis-(Glyc-ALit)-GLP-1(7-38);
 Arg³⁴Lys^{18,26}-bis-(Glyc-ALit)-GLP-1(7-38);

 20
 Arg²⁶Lys^{23,34}-bis-(Glyc-ALit)-GLP-1(7-39);
 Arg³⁴Lys^{18,26}-bis-(Glyc-ALit)-GLP-1(7-39);

 20
 Arg²⁶Lys^{23,34}-bis-(Glyc-ALit)-GLP-1(7-36);
 Arg³⁴Lys^{23,26}-bis-(Glyc-ALit)-GLP-1(7-36);

 20
 Arg²⁶Lys^{23,34}-bis-(Glyc-ALit)-GLP-1(7-37);
 Arg³⁴Lys^{23,26}-bis-(Glyc-ALit)-GLP-1(7-37);

 20
 Arg²⁶Lys^{23,34}-bis-(Glyc-ALit)-GLP-1(7-38);
 Arg³⁴Lys^{23,26}-bis-(Glyc-ALit)-GLP-1(7-38);
- Arg²⁶Lys^{34,38}-bis-(Glyc-ALit)-GLP-1(7-37);
 Arg³

 15
 Arg²⁶Lys^{34,39}-bis-(Glyc-ALit)-GLP-1(7-37);
 Arg³

 Arg²⁶Lys^{34,39}-bis-(Glyc-ALit)-GLP-1(7-39);
 Arg³

 Arg²⁶Lys^{36,39}-bis-(Glyc-ALit)-GLP-1(7-39);
 Arg³

 Arg²⁶Lys^{18,34}-bis-(Glyc-ALit)-GLP-1(7-39);
 Arg³

 Arg²⁶Lys^{18,34}-bis-(Glyc-ALit)-GLP-1(7-36);
 Arg³

 Arg²⁶Lys^{18,34}-bis-(Glyc-ALit)-GLP-1(7-37);
 Arg³

 20
 Arg²⁶Lys^{18,34}-bis-(Glyc-ALit)-GLP-1(7-38);
 Arg³

ALit)-GLP-1(7-38); Lys^{26,34}-bis-(Glyc-ALit)-GLP-1(7-39)

Arg²⁶Lys^{34,36}-bis-(Glyc-ALit)-GLP-1(7-36);

Arg³⁴Lys^{18,26}-bis-(Glyc-ALit)-GLP-1(7-36); Arg³⁴Lys^{18,26}-bis-(Glyc-ALit)-GLP-1(7-37); Arg³⁴Lys^{18,26}-bis-(Glyc-ALit)-GLP-1(7-38);

- Arg³⁴Lys^{26,36}-bis-(Glyc-ALit)-GLP-1(7-36); Arg³⁴Lys^{26,36}-bis-(Glyc-ALit)-GLP-1(7-37); Arg³⁴Lys^{26,37}-bis-(Glyc-ALit)-GLP-1(7-37); Arg³⁴Lys^{26,39}-bis-(Glyc-ALit)-GLP-1(7-39);
- 5 Thr⁸Arg²⁶Lys^{34,36}-bis-(Glyc-AOct)-GLP-1(7-36); Thr⁸Arg³⁴Lys^{26,36}-bis-(Glyc-AOct)-GLP-1(7-36); Thr⁸Arg²⁶Lys^{34,38}-bis-(Glyc-AOct)-GLP-1(7-37); Thr⁸Arg²⁶Lys^{34,37}-bis-(Glyc-AOct)-GLP-1(7-37); Thr⁸Arg²⁶Lys^{34,38}-bis-(Glyc-AOct)-GLP-1(7-37); Thr⁸Arg²⁶Lys^{34,38}-bis-(Glyc-AOct)-GLP-1(7-38); Thr⁸Arg²⁶Lys^{34,38}-bis-(Glyc-AOct)-GLP-1(7-38); Thr⁸Arg^{26,38}-bis-(Glyc-AOct)-GLP-1(7-38); Thr⁸Arg^{26,38}-bis-(Glyc-AOct)-GLP-1(7-38); Thr⁸Arg^{26,34}Lys^{36,38}-bis-(Glyc-AOct)-GLP-1(7-38); Thr⁸Arg^{26,34}Lys^{36,38}-bis-(Glyc-AOct)-GLP-1(7-38); Thr⁸Arg^{26,34}Lys^{26,39}-bis-(Glyc-AOct)-GLP-1(7-39); Thr⁸Arg^{26,34}Lys^{26,34}-bis-(Glyc-AOct)-GLP-1(7-39); Lys^{28,34}-bis-(Glyc-ALit)-GLP-1(7-36); Lys^{26,34}-bis-(Glyc-ALit)-GLP-1(7-37); Lys^{28,34}-bis-(Glyc-ALit)-GLP-1(7-37); Lys^{28,34}-bis-(Glyc-ALit)-GLP-1(7-36); Lys^{28,34}-bis-(Glyc-ALit)-GLP-1(7-37); Lys^{28,34}-bis-(Glyc-ALit)-GLP-1(7-37); Lys^{28,34}-bis-(Glyc-ALit)-GLP-1(7-37); Lys^{28,34}-bis-(Glyc-ALit)-GLP-1(7-37); Lys^{28,34}-bis-(Glyc-ALit)-GLP-1(7-37); Lys³⁴-bis-(Glyc-ALit)-GLP-1(7-37); Lys³⁴-bis-(Glyc-ALit)-GLP-1(7-37); Lys³⁴-bis-(Glyc-ALit)-GLP-1(7-37); Lys³⁴-bis-(Glyc-ALit)-GLP-1(7-37); Lys³⁴-bis-(Glyc-ALit)-GLP-1(7-37); Lys³⁴-bis-(Glyc-ALit)-GLP-1(7-37); Ly
- Ser⁸Arg^{28,34}Lys^{38,38}-bis-(Glyc-AOct)-GLP-1(7-38); Ser⁸Arg^{28,34}Lys^{38,39}-bis-(Glyc-AOct)-GLP-1(7-39);

 Ser⁸Arg³⁴Lys^{28,39}-bis-(Glyc-AOct)-GLP-1(7-39); Ser⁸Arg^{28,34}Lys^{38,39}-bis-(Glyc-AOct)-GLP-1(7-39);

 Thr⁸Lys^{28,34}-bis-(Glyc-AOct)-GLP-1(7-36);

 Thr⁸Lys^{28,34}-bis-(Glyc-AOct)-GLP-1(7-38); Thr⁸Lys^{28,34}-bis-(Glyc-AOct)-GLP-1(7-37);

GDod)-GLP-1(7-38); Lys^{28,34}-bis-(GAB-GDod)-GLP-1(7-39) 30 Arg²⁶Lys^{34,36}-bis-(GAB-GDod)-GLP-1(7-36); Arg³⁴Ly Arg²⁶Lys^{34,36}-bis-(GAB-GDod)-GLP-1(7-37); Arg³⁴Ly Arg²⁶Lys^{34,37}-bis-(GAB-GDod)-GLP-1(7-37); Arg³⁴Ly Arg²⁶Lys^{34,39}-bis-(GAB-GDod)-GLP-1(7-39); Arg³⁴Ly

Arg³⁴Lys^{26,36}-bis-(GAB-GDod)-GLP-1(7-36); Arg³⁴Lys^{26,36}-bis-(GAB-GDod)-GLP-1(7-37); Arg³⁴Lys^{26,37}-bis-(GAB-GDod)-GLP-1(7-37); Arg³⁴Lys^{26,39}-bis-(GAB-GDod)-GLP-1(7-39);

- Thr⁸Arg²⁶Lys^{34,37}-bis-(Glyc-ALit)-GLP-1(7-37);
 Thr⁸Arg²⁶Lys^{34,38}-bis-(Glyc-ALit)-GLP-1(7-38);
 Thr⁸Arg²⁶Lys^{34,38}-bis-(Glyc-ALit)-GLP-1(7-38);
 Thr⁸Arg²⁶Lys^{34,38}-bis-(Glyc-ALit)-GLP-1(7-38);
 Thr⁸Arg²⁶Lys^{36,38}-bis-(Glyc-ALit)-GLP-1(7-38);
 Thr⁸Arg²⁶Lys^{36,39}-bis-(Glyc-ALit)-GLP-1(7-38);
 Thr⁸Arg²⁶Lys^{36,39}-bis-(Glyc-ALit)-GLP-1(7-38);
 Thr⁸Arg²⁶Lys^{36,39}-bis-(Glyc-ALit)-GLP-1(7-38);
 Thr⁸Arg²⁶Lys^{36,39}-bis-(Glyc-ALit)-GLP-1(7-38);
 Thr⁸Arg²⁶Lys^{36,39}-bis-(Glyc-ALit)-GLP-1(7-38);
 Thr⁸Arg²⁶Lys^{36,39}-bis-(Glyc-ALit)-GLP-1(7-39);
 Thr⁸Arg²⁶Lys^{36,39}-bis-(Glyc-ALit)-GLP-1(7-39);
 Thr⁸Arg²⁶Lys^{36,39}-bis-(Glyc-ALit)-GLP-1(7-39);
 Thr⁸Arg^{26,34}-bis-(GAB-GDod)-GLP-1(7-36);
 Lys^{26,34}-bis-(GAB-GDod)-GLP-1(7-36);
 Lys^{26,34}-bis-(GAB-GDod)-GLP-1(7-36);
- 20 Thr⁸Lys^{26,34}-bis-(Glyc-ALit)-GLP-1(7-36); Thr⁸Lys^{26,34}-bis-(Glyc-ALit)-GLP-1(7-37); Thr⁸Lys^{26,34}-bis-(Glyc-ALit)-GLP-1(7-39)
 Thr⁸Arg²⁶Lys^{34,36}-bis-(Glyc-ALit)-GLP-1(7-36); Thr⁸Arg²⁶Lys^{34,36}-bis-(Glyc-ALit)-GLP-1(7-37); Thr⁸Arg²⁶Lys^{34,36}-bis-(Glyc-ALit)-GLP-1(7-37); Thr⁸Arg²⁶Lys^{34,36}-bis-(Glyc-ALit)-GLP-1(7-37); Thr⁸Arg²⁶Lys^{34,37}-bis-(Glyc-ALit)-GLP-1(7-37); Thr⁸Arg²⁶Lys^{26,36}-bis-(Glyc-ALit)-GLP-1(7-37); Thr⁸Arg²⁶Lys^{34,37}-bis-(Glyc-ALit)-GLP-1(7-37); Thr⁸Arg³⁴Lys^{26,37}-bis-(Glyc-ALit)-GLP-1(7-37); Thr⁸Arg³⁴Lys³⁴-bis-(Glyc-ALit)-GLP-1(7-37); Thr⁸Arg³⁴Lys³⁴-bis-(Glyc-ALit)-GLP-1(7-37); Thr⁸Arg³⁴-bis-(Glyc-ALit)-GLP-1(7-37); Thr⁸Arg³⁴-bis-(Glyc-ALit)-GLP-1(7-37); Thr⁸Arg³⁴-bis-(Glyc-ALit)-GLP-1(7-37); Thr⁸Arg³⁴-bis-(Glyc-ALit)-GLP-1(7-37); Thr⁸Arg³⁴-bis-
- 15 Ser⁸Arg²⁶Lys^{34,36}-bis-(Glyc-ALit)-GLP-1(7-37); Ser⁸Arg³⁴Lys^{26,38}-bis-(Glyc-ALit)-GLP-1(7-37); Ser⁸Arg²⁶Lys^{34,38}-bis-(Glyc-ALit)-GLP-1(7-37); Ser⁸Arg²⁶Lys^{34,38}-bis-(Glyc-ALit)-GLP-1(7-38); Ser⁸Arg^{26,38}-bis-(Glyc-ALit)-GLP-1(7-38); Ser⁸Arg^{26,34}Lys^{26,38}-bis-(Glyc-ALit)-GLP-1(7-38); Ser⁸Arg^{26,34}Lys^{26,39}-bis-(Glyc-ALit)-GLP-1(7-39); Ser⁸Arg^{26,34}Lys^{26,39}-bis-(Glyc-ALit)-GLP-1(7-39); Ser⁸Arg^{26,34}Lys^{26,39}-bis-(Glyc-ALit)-GLP-1(7-39); Ser⁸Arg^{26,34}Lys^{26,39}-bis-(Glyc-ALit)-GLP-1(7-39); Ser⁸Arg^{26,34}Lys^{36,39}-bis-(Glyc-ALit)-GLP-1(7-39); Ser⁸Arg³⁴Lys^{36,39}-bis-(Slyc-ALit)-Ser⁸Arg³⁴Lys^{36,39}-bis-(Slyc-ALit)-Ser⁸Arg³⁴Lys^{36,39}-bis-(Slyc-ALit)-Ser⁸Arg³⁴Lys^{36,39}-bis-(Slyc-ALit)-Ser⁸Arg³⁴Lys^{36,39}-bis-(Slyc-ALit)-Ser⁸Arg³⁴Lys^{36,39}-bis-(Slyc-ALit)-Ser⁸Arg³⁴Lys^{36,39}-bis-(Slyc-ALit)-Ser⁸Arg³⁴Lys^{36,39}-bis-(Slyc-ALit)-Ser⁸Arg³⁴Lys^{36,39}-bis-(Slyc-ALit)-Ser⁸Arg³⁴Lys^{36,39}
- Val⁸Arg³⁴Lys^{28,39}-bis-(Glyc-ALit)-GLP-1(7-39); Val⁸Arg^{28,34}Lys^{38,39}-bis-(Glyc-ALit)-GLP-1(7-39); Ser⁸Lys^{26,34}-bis-(Glyc-ALit)-GLP-1(7-36); Ser⁸Lys^{28,34}-bis-(Glyc-ALit)-GLP-1(7-37); Ser⁸Lys^{28,34}bis-(Glyc-ALit)-GLP-1(7-38); Ser⁸Lys^{28,34}-bis-(Glyc-ALit)-GLP-1(7-39)
- bis-(Glyc-ALit)-GLP-1(7-38); Val⁸Lys^{26,34}-bis-(Glyc-ALit)-GLP-1(7-39) Val⁸Arg²⁶Lys^{34,38}-bis-(Glyc-ALit)-GLP-1(7-36); Val⁸Arg³⁴Lys^{28,38}-bis-(Val⁸Arg²⁶Lys^{34,38}-bis-(Glyc-ALit)-GLP-1(7-37); Val⁸Arg³⁴Lys^{26,37}-bis-(Val⁸Arg²⁶Lys^{34,38}-bis-(Glyc-ALit)-GLP-1(7-37); Val⁸Arg³⁴Lys^{26,38}-bis-(Val⁸Arg²⁶Lys^{34,38}-bis-(Glyc-ALit)-GLP-1(7-38); Val⁸Arg³⁴Lys^{26,38}-bis-(Val⁸Arg²⁶Lys^{34,38}-bis-(Val⁸Arg³⁴Lys^{26,38}-bis-Val⁸Arg²⁶Lys^{34,38}-bis-(Val⁸Arg³⁴Lys^{26,38}-bis-Val⁸Arg²⁶Lys^{34,38}-bis-(Val⁸Arg³⁴Lys^{26,38}-bis-Val⁸Arg²⁶Lys^{34,38}-bis-(Val⁸Arg³⁴Lys^{26,38}-bis-Val⁸Arg²⁶Lys^{34,38}-bis-(Val⁸Arg³⁴Lys^{26,38}-bis-Val⁸Arg²⁶Lys^{34,38}-bis-(Val⁸Arg³⁴Lys^{26,38}-bis-Val⁸Arg²⁶Lys^{34,38}-bis-(Val⁸Arg³⁴Lys^{26,38}-bis-Val⁸Arg²⁶Lys^{34,38}-bis-(Val⁸Arg²⁶Lys^{34,38}-bis-Val⁸Arg⁴Lys⁴Lys⁴Lys⁴Lys⁴Lys⁴Lys⁴⁸Lys⁴

Ser⁸Arg²⁶Lys^{34,36}-bis-(Glyc-ALit)-GLP-1(7-36);

Val⁸Arg³⁴Lys^{28,38}-bis-(Glyc-ALit)-GLP-1(7-36); Val⁸Arg³⁴Lys^{28,36}-bis-(Glyc-ALit)-GLP-1(7-37); Val⁸Arg³⁴Lys^{26,37}-bis-(Glyc-ALit)-GLP-1(7-37); Val⁸Arg³⁴Lys^{26,38}-bis-(Glyc-ALit)-GLP-1(7-38); Val⁸Arg²⁶Lys^{34,39}-bis-(Glyc-ALit)-GLP-1(7-39);

Ser⁸Arg³⁴Lys^{26,36}-bis-(Glyc-ALit)-GLP-1(7-36);

1(7-39); Ser⁸Lys^{26,34}-bis-(GAB-GDod)-GLP-1(7-36); Ser⁸Lys^{26,34}-bis-(GAB-GDod)-GLP-1(7-37); Ser⁸Arg²⁶Lys^{34,36}-bis-(GAB-GDod)-GLP-1(7-36); Ser⁸Arg²⁶Lys^{34,36}-bis-(GAB-GDod)-GLP-1(7-36); Ser⁸Arg²⁶Lys^{26,36}-bis-(GAB-GDod)-GLP-1(7-37); Ser⁸Arg²⁶Lys^{26,36}-bis-(GAB-GDod)-GLP-1(7-37); Ser⁸Arg³⁴Lys^{26,36}-bis-(GAB-GDod)-GLP-1(7-37); Ser⁸Arg³⁴Lys^{26,36}-bis-(GAB-GDod)-GLP-1(7-37);

Val⁸Arg²⁶Lys^{34,36}-bis-(GAB-GDod)-GLP-1(7-36); Val⁸Arg³⁴Lys^{26,36}-bis-(GAB-GDod)-GLP-1(7-36);
 Val⁸Arg²⁶Lys^{34,36}-bis-(GAB-GDod)-GLP-1(7-37); Val⁸Arg³⁴Lys^{26,37}-bis-(GAB-GDod)-GLP-1(7-37);
 Val⁸Arg²⁶Lys^{34,38}-bis-(GAB-GDod)-GLP-1(7-37); Val⁸Arg³⁴Lys^{26,38}-bis-(GAB-GDod)-GLP-1(7-37);
 Val⁸Arg²⁶Lys^{34,38}-bis-(GAB-GDod)-GLP-1(7-38); Val⁸Arg³⁴Lys^{26,38}-bis-(GAB-GDod)-GLP-1(7-38);
 Val⁸Arg^{26,34}Lys^{36,38}-bis-(GAB-GDod)-GLP-1(7-38); Val⁸Arg²⁶Lys^{34,39}-bis-(GAB-GDod)-GLP-1(7-38);
 Val⁸Arg^{26,34}Lys^{36,38}-bis-(GAB-GDod)-GLP-1(7-38); Val⁸Arg²⁶Lys^{34,39}-bis-(GAB-GDod)-GLP-1(7-38);

Val[®]Lys^{26,34}-bis-(GAB-GDod)-GLP-1(7-38); Val[®]Lys^{26,34}-bis-(GAB-GDod)-GLP-1(7-39)

Gly⁸Arg²⁶Lys^{34,36}-bis-(GAB-GDod)-GLP-1(7-36); Gly⁸Arg³⁴Lys^{26,36}-bis-(GAB-GDod)-GLP-1(7-36); Gly⁸Arg²⁶Lys^{34,36}-bis-(GAB-GDod)-GLP-1(7-37); Gly⁸Arg²⁶Lys^{26,37}-bis-(GAB-GDod)-GLP-1(7-37); Gly⁸Arg²⁶Lys^{34,37}-bis-(GAB-GDod)-GLP-1(7-37); Gly⁸Arg³⁴Lys^{26,37}-bis-(GAB-GDod)-GLP-1(7-37); Gly⁸Arg²⁶Lys^{34,38}-bis-(GAB-GDod)-GLP-1(7-38); Gly⁸Arg³⁴Lys^{26,38}-bis-(GAB-GDod)-GLP-1(7-38); Gly⁸Arg²⁶Lys^{34,38}-bis-(GAB-GDod)-GLP-1(7-38); Gly⁸Arg²⁶Lys^{34,39}-bis-(GAB-GDod)-GLP-1(7-38); Gly⁸Arg²⁶Lys^{34,39}-bis-(GAB-GDod)-GLP-1(7-38); Gly⁸Arg²⁶Lys^{34,39}-bis-(GAB-GDod)-GLP-1(7-38); Gly⁸Arg²⁶Lys^{34,39}-bis-(GAB-GDod)-GLP-1(7-38); Gly⁸Arg²⁶Lys^{34,39}-bis-bis-(GAB-GDod)-GLP-1(7-38); Gly⁸Arg²⁶Lys^{34,39}-bis-bis-(GAB-GDod)-GLP-1(7-39); Gly⁸Arg^{26,34}Lys^{36,39}-bis-(GAB-GDod)-GLP-1(7-39); Gly⁸Arg^{36,34}-bis-(GAB-GDod)-GLP-1(7-39); Gly⁸Arg^{36,34}-bis-(GAB-GDod)-GLP-1(7-39); Gly

Val⁸Lys^{26,34}-bis-(GAB-GDod)-GLP-1(7-36);

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- Arg²⁶Lys^{27,34}-bis-(GAB-GDod)-GLP-1(7-36);
 Arg³⁴Lys^{27,26}-bis-(GAB-GDod)-GLP-1(7-36);

 10
 Arg²⁶Lys^{27,34}-bis-(GAB-GDod)-GLP-1(7-37);
 Arg³⁴Lys^{27,26}-bis-(GAB-GDod)-GLP-1(7-37);

 10
 Arg²⁶Lys^{27,34}-bis-(GAB-GDod)-GLP-1(7-37);
 Arg³⁴Lys^{27,26}-bis-(GAB-GDod)-GLP-1(7-37);

 10
 Arg²⁶Lys^{27,34}-bis-(GAB-GDod)-GLP-1(7-38);
 Arg³⁴Lys^{27,26}-bis-(GAB-GDod)-GLP-1(7-37);

 10
 Arg²⁶Lys^{27,34}-bis-(GAB-GDod)-GLP-1(7-38);
 Arg³⁴Lys^{27,26}-bis-(GAB-GDod)-GLP-1(7-38);

 10
 Arg²⁶Lys^{27,34}-bis-(GAB-GDod)-GLP-1(7-38);
 Arg³⁴Lys^{27,26}-bis-(GAB-GDod)-GLP-1(7-38);

 10
 Arg²⁶Lys^{26,34}-bis-(GAB-GDod)-GLP-1(7-38);
 Arg³⁴Lys^{27,26}-bis-(GAB-GDod)-GLP-1(7-39);

 10
 Arg²⁶Lys^{26,34}-bis-(GAB-GDod)-GLP-1(7-36);
 Gly⁸Lys^{26,34}-bis-(GAB-GDod)-GLP-1(7-37);

 10
 Gly⁸Lys^{26,34}-bis-(GAB-GDod)-GLP-1(7-38);
 Gly⁸Lys^{26,34}-bis-(GAB-GDod)-GLP-1(7-37);
- 5 Arg²⁶Lys^{23,34}-bis-(GAB-GDod)-GLP-1(7-36); Arg²⁶Lys^{23,34}-bis-(GAB-GDod)-GLP-1(7-37); Arg²⁶Lys^{23,34}-bis-(GAB-GDod)-GLP-1(7-38); Arg²⁶Lys^{23,34}-bis-(GAB-GDod)-GLP-1(7-39); Arg³⁴Lys^{23,26}-bis-(GAB-GDod)-GLP-1(7-38); Arg²⁶Lys^{27,34}-bis-(GAB-GDod)-GLP-1(7-39); Arg³⁴Lys^{23,26}-bis-(GAB-GDod)-GLP-1(7-39); Arg²⁶Lys^{27,34}-bis-(GAB-GDod)-GLP-1(7-36); Arg²⁶Lys^{27,34}-bis-(GAB-GDod)-GLP-1(7-36); Arg²⁶Lys^{27,34}-bis-(GAB-GDod)-GLP-1(7-37); Arg²⁶Lys^{27,34}-bis-(GAB-GDod)-GLP-1(7-37); Arg²⁶Lys^{27,34}-bis-(GAB-GDod)-GLP-1(7-37); Arg²⁶Lys^{27,34}-bis-(GAB-GDod)-GLP-1(7-37); Arg²⁶Lys^{27,34}-bis-(GAB-GDod)-GLP-1(7-37); Arg²⁶Lys^{27,34}-bis-(GAB-GDod)-GLP-1(7-37);
- Arg²⁶Lys^{18,24}-bis-(GAB-GDod)-GLP-1(7-36);
 Arg³⁴Lys^{18,26}-bis-(GAB-GDod)-GLP-1(7-36);

 Arg²⁶Lys^{18,34}-bis-(GAB-GDod)-GLP-1(7-37);
 Arg³⁴Lys^{18,26}-bis-(GAB-GDod)-GLP-1(7-37);

 Arg²⁶Lys^{18,34}-bis-(GAB-GDod)-GLP-1(7-38);
 Arg³⁴Lys^{18,26}-bis-(GAB-GDod)-GLP-1(7-38);

 Arg²⁶Lys^{18,34}-bis-(GAB-GDod)-GLP-1(7-39);
 Arg³⁴Lys^{18,26}-bis-(GAB-GDod)-GLP-1(7-38);

 Arg²⁶Lys^{18,34}-bis-(GAB-GDod)-GLP-1(7-39);
 Arg³⁴Lys^{18,26}-bis-(GAB-GDod)-GLP-1(7-39);

 Arg²⁶Lys^{23,34}-bis-(GAB-GDod)-GLP-1(7-36);
 Arg³⁴Lys^{23,26}-bis-(GAB-GDod)-GLP-1(7-36);

Val⁸Lvs^{26,34}-bis-(GAB-GDod)-GLP-1(7-37);

GLP-1(7-37);

GLP-1(7-37);

bis-(GAB-GDod)-GLP-1(7-39);

bis-(GAB-GDod)-GLP-1(7-39);

Thr^aLys^{26,34}-bis-(GAB-GDod)-GLP-1(7-36);

Thr Arg26 Lys34.36-bis-(GAB-GDod)-GLP-1(7-36);

Ser[®]Arg³⁴Lys^{26,38}-bis-(GAB-

Thr⁸Arg³⁴Lys^{26,38}-bis-(GAB-

Thr⁸Lys^{26,34}-bis-(GAB-GDod)-GLP-1(7-37);

Thr8Arg34Lys28,36-bis-(GAB-GDod)-GLP-1(7-

1(7-37); Ser⁸Arg²⁶Lys^{34,37}-bis-(GAB-GDod)-GLP-1(7-37); Ser⁸Arg³⁴Lys^{26,37}-bis-(GAB-GDod)-

GDod)-GLP-1(7-38); Ser⁸Arg^{26,34}Lys^{36,38}-bis-(GAB-GDod)-GLP-1(7-38); Ser⁸Arg²⁶Lys^{34,39}-bis-(GAB-GDod)-GLP-1(7-39); Ser⁸Arg³⁴Lys^{26,39}-bis-(GAB-GDod)-GLP-1(7-39); Ser⁸Arg^{26,34}Lys^{38,39}-

36); Thr^aArg²⁶Lys^{34,36}-bis-(GAB-GDod)-GLP-1(7-37); Thr^aArg³⁴Lys^{26,36}-bis-(GAB-GDod)-GLP-1(7-37); Thr⁸Arg²⁸Lys^{34,37}-bis-(GAB-GDod)-GLP-1(7-37); Thr⁸Arg³⁴Lys^{28,37}-bis-(GAB-GDod)-

GDod)-GLP-1(7-38); Thr⁸Arg^{26,34}Lys^{36,38}-bis-(GAB-GDod)-GLP-1(7-38); Thr⁸Arg²⁶Lys^{34,39}-bis-(GAB-GDod)-GLP-1(7-39); Thr⁸Arg³⁴Lys^{26,39}-bis-(GAB-GDod)-GLP-1(7-39); Thr⁸Arg^{26,34}Lys^{36,39}-

Ser⁸Arg²⁶Lys^{34,38}-bis-(GAB-GDod)-GLP-1(7-38);

Thr⁸Lys^{28,34}-bis-(GAB-GDod)-GLP-1(7-38); Thr⁸Lys^{28,34}-bis-(GAB-GDod)-GLP-1(7-39)

Thr⁸Arg²⁸Lys^{34,38}-bis-(GAB-GDod)-GLP-1(7-38);

Lys^{26,34}-bis-(GAB-GTet)-GLP-1(7-36); Lys^{26,34}-bis-(GAB-GTet)-GLP-1(7-37); Lys^{26,34}-bis-(GAB-GTet)-GLP-1(7-38); Lys^{26,34}-bis-(GAB-GTet)-GLP-1(7-39) Arg²⁶Lys^{34,36}-bis-(GAB-GTet)-GLP-1(7-36); Arg³⁴Lys^{26,36}-bis-(GAB-GTet)-GLP-1(7-36); Arg²⁶Lys^{34,36}-bis-(GAB-GTet)-GLP-1(7-37); Arg³⁴Lys^{26,36}-bis-(GAB-GTet)-GLP-1(7-37);

Arg²⁶Lys^{34,37}-bis-(GAB-GTet)-GLP-1(7-37); Arg³⁴Lys^{26,37}-bis-(GAB-GTet)-GLP-1(7-37); Arg²⁶Lys^{34,39}-bis-(GAB-GTet)-GLP-1(7-39); Arg³⁴Lys^{26,39}-bis-(GAB-GTet)-GLP-1(7-39); 20 Arg^{26,34}Lys^{36,39}-bis-(GAB-GTet)-GLP-1(7-39); Arg²⁶Lys^{18,34}-bis-(GAB-GTet)-GLP-1(7-36); Arg³⁴Lys^{18,26}-bis-(GAB-GTet)-GLP-1(7-36); Arg²⁶Lys^{18,34}-bis-(GAB-GTet)-GLP-1(7-37); Arg³⁴Lys^{18,28}-bis-(GAB-GTet)-GLP-1(7-37); Arg²⁶Lys^{18,34}-bis-(GAB-GTet)-GLP-1(7-38); Arg³⁴Lys^{18,26}-bis-(GAB-GTet)-GLP-1(7-38);

Arg²⁶Lys^{18,34}-bis-(GAB-GTet)-GLP-1(7-39); Arg³⁴Lys^{18,26}-bis-(GAB-GTet)-GLP-1(7-39); 25 Arg²⁶Lys^{23,34}-bis-(GAB-GTet)-GLP-1(7-36); Arg³⁴Lys^{23,26}-bis-(GAB-GTet)-GLP-1(7-36); Arg²⁶Lys^{23,34}-bis-(GAB-GTet)-GLP-1(7-37); Arg³⁴Lys^{23,26}-bis-(GAB-GTet)-GLP-1(7-37); Arg²⁶Lys^{23,34}-bis-(GAB-GTet)-GLP-1(7-38); Arg³⁴Lys^{23,26}-bis-(GAB-GTet)-GLP-1(7-38); Arg²⁶Lys^{23,34}-bis-(GAB-GTet)-GLP-1(7-39); Arg³⁴Lys^{23,26}-bis-(GAB-GTet)-GLP-1(7-39); Arg²⁶Lys^{27,34}-bis-(GAB-GTet)-GLP-1(7-36); Arg³⁴Lys^{27,26}-bis-(GAB-GTet)-GLP-1(7-36); 30 Arg²⁶Lys^{27,34}-bis-(GAB-GTet)-GLP-1(7-37); Arg³⁴Lys^{27,26}-bis-(GAB-GTet)-GLP-1(7-37); Arg²⁶Lys^{27,34}-bis-(GAB-GTet)-GLP-1(7-38); Arg³⁴Lys^{27,26}-bis-(GAB-GTet)-GLP-1(7-38);

Arg²⁶Lys^{27,34}-bis-(GAB-GTet)-GLP-1(7-39); Arg³⁴Lys^{27,26}-bis-(GAB-GTet)-GLP-1(7-39);

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Thr⁴Lys^{26,34}-bis-(GAB-GTet)-GLP-1(7-37); Thr⁸Lys^{26,34}-bis-(GAB-GTet)-GLP-1(7-36); Thr⁸Lys^{28,34}-bis-(GAB-GTet)-GLP-1(7-38); Thr⁸Lys^{26,34}-bis-(GAB-GTet)-GLP-1(7-39) Thr⁸Arg²⁶Lys^{34,36}-bis-(GAB-GTet)-GLP-1(7-36); Thr⁸Arg³⁴Lys^{26,36}-bis-(GAB-GTet)-GLP-1(7-36); Thr⁸Arg²⁶Lys^{34,36}-bis-(GAB-GTet)-GLP-1(7-37); Thr8Arg34Lys26,36-bis-(GAB-GTet)-GLP-1(7-37); Thr⁸Arg³⁴Lys^{26,37}-bis-(GAB-GTet)-GLP-1(7-37): Thr⁸Arg²⁶Lys^{34,37}-bis-(GAB-GTet)-GLP-1(7-37); Thr⁸Arg²⁶Lys^{34,38}-bis-(GAB-GTet)-GLP-1(7-38); Thr⁸Arg³⁴Lys^{26,38}-bis-(GAB-GTet)-GLP-1(7-38); Thr^aArg^{26,34}Lys^{36,38}-bis-(GAB-GTet)-GLP-1(7-38); Thr⁸Arg²⁶Lys^{34,39}-bis-(GAB-GTet)-GLP-1(7-

- Ser⁸Lys^{26,34}-bis-(GAB-GTet)-GLP-1(7-38); Ser⁸Lys^{26,34}-bis-(GAB-GTet)-GLP-1(7-39) Ser⁸Arg²⁶Lys^{34,36}-bis-(GAB-GTet)-GLP-1(7-36); Ser⁸Arg³⁴Lys^{26,36}-bis-(GAB-GTet)-GLP-1(7-36); 20 Ser^aArg²⁶Lys^{34,36}-bis-(GAB-GTet)-GLP-1(7-37); Ser⁸Arg³⁴Lys^{26,36}-bis-(GAB-GTet)-GLP-1(7-37); Ser⁸Arg²⁶Lys^{34,37}-bis-(GAB-GTet)-GLP-1(7-37); Ser⁸Arg³⁴Lys^{26,37}-bis-(GAB-GTet)-GLP-1(7-37); Ser⁸Arg²⁶Lys^{34,38}-bis-(GAB-GTet)-GLP-1(7-38); Ser⁸Arg³⁴Lys^{26,38}-bis-(GAB-GTet)-GLP-1(7-38); Ser⁸Arg^{26,34}Lys^{36,38}-bis-(GAB-GTet)-GLP-1(7-38); Ser⁸Arg²⁶Lys^{34,39}-bis-(GAB-GTet)-GLP-1(7-39); Ser⁸Arg³⁴Lys^{26,39}-bis-(GAB-GTet)-GLP-1(7-39); Ser⁸Arg^{26,34}Lys^{36,39}-bis-(GAB-GTet)-GLP-25
- Val⁸Arg²⁶Lys^{34,37}-bis-(GAB-GTet)-GLP-1(7-37); Val⁸Arg³⁴Lys^{26,37}-bis-(GAB-GTet)-GLP-1(7-37); Val[®]Arg²⁶Lys^{34,38}-bis-(GAB-GTet)-GLP-1(7-38): Val[®]Arg³⁴Lys^{26,38}-bis-(GAB-GTet)-GLP-1(7-38); 15 Val⁸Arg^{26,34}Lys^{36,38}-bis-(GAB-GTet)-GLP-1(7-38); Val⁸Arg²⁶Lys^{34,39}-bis-(GAB-GTet)-GLP-1(7-39); Val⁸Arg³⁴Lys^{28,39}-bis-(GAB-GTet)-GLP-1(7-39); Val⁸Arg^{28,34}Lys^{38,39}-bis-(GAB-GTet)-GLP-1(7-39); Ser⁸Lys^{26,34}-bis-(GAB-GTet)-GLP-1(7-36); Ser^aLys^{26,34}-bis-(GAB-GTet)-GLP-1(7-37);
- 1(7-39): Val⁸Lys^{26,34}-bis-(GAB-GTet)-GLP-1(7-36); Val⁸Lys^{26,34}-bis-(GAB-GTet)-GLP-1(7-37); 10 Val[®]Lys^{26,34}-bis-(GAB-GTet)-GLP-1(7-38); Val[®]Lys^{26,34}-bis-(GAB-GTet)-GLP-1(7-39) Val[®]Arg²⁶Lys^{34,36}-bis-(GAB-GTet)-GLP-1(7-36); Val⁸Arg³⁴Lys^{26,36}-bis-(GAB-GTet)-GLP-1(7-36); Val⁸Arg²⁶Lys^{34,36}-bis-(GAB-GTet)-GLP-1(7-37); Val[®]Arg³⁴Lys^{26,36}-bis-(GAB-GTet)-GLP-1(7-37);
- Gly⁸Lys^{26,34}-bis-(GAB-GTet)-GLP-1(7-38); Gly⁸Lys^{26,34}-bis-(GAB-GTet)-GLP-1(7-39) Gly⁸Arg²⁶Lys^{34,36}-bis-(GAB-GTet)-GLP-1(7-36); Gly⁸Arg³⁴Lys^{26,36}-bis-(GAB-GTet)-GLP-1(7-36); Gly⁸Arg²⁶Lys^{34,36}-bis-(GAB-GTet)-GLP-1(7-37); Glv⁸Arg³⁴Lys^{26,36}-bis-(GAB-GTet)-GLP-1(7-37); Gly⁸Arg²⁶Lys^{34,37}-bis-(GAB-GTet)-GLP-1(7-37); Gly⁸Arg³⁴Lys^{28,37}-bis-(GAB-GTet)-GLP-1(7-37); 5 Gly⁸Arg²⁶Lys^{34,38}-bis-(GAB-GTet)-GLP-1(7-38); Gly⁸Arg³⁴Lys^{26,38}-bis-(GAB-GTet)-GLP-1(7-38); Gly⁸Arg^{26,34}Lys^{36,38}-bis-(GAB-GTet)-GLP-1(7-38); Gly⁸Arg²⁶Lys^{34,39}-bis-(GAB-GTet)-GLP-1(7-39); Gly⁸Arg³⁴Lys^{26,39}-bis-(GAB-GTet)-GLP-1(7-39); Gly⁸Arg^{26,34}Lys^{36,39}-bis-(GAB-GTet)-GLP-
- Gly⁸Lys^{28,34}-bis-(GAB-GTet)-GLP-1(7-36); Gly⁸Lys^{26,34}-bis-(GAB-GTet)-GLP-1(7-37);

1(7-39);

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Val⁸Lys^{26,34}-bis-(GAB-GHex)-GLP-1(7-36); Val⁸Lys^{26,34}-bis-(GAB-GHex)-GLP-1(7-37); Val⁸Lys^{26,34}-bis-(GAB-GHex)-GLP-1(7-39) Val⁸Arg²⁶Lys^{34,36}-bis-(GAB-GHex)-GLP-1(7-36); Val⁸Arg³⁴Lys^{26,36}-bis-(GAB-GHex)-GLP-1(7-36); Val⁸Arg²⁶Lys^{34,36}-bis-(GAB-GHex)-GLP-1(7-37); Val⁸Arg³⁴Lys^{26,36}-bis-(GAB-GHex)-GLP-1(7-37);

- 30 1(7-39);
- Gly⁸Lys^{26,34}-bis-(GAB-GHex)-GLP-1(7-38); Gly⁸Lys^{26,34}-bis-(GAB-GHex)-GLP-1(7-39)
 Gly⁸Arg²⁶Lys^{34,36}-bis-(GAB-GHex)-GLP-1(7-36); Gly⁸Arg³⁴Lys^{26,36}-bis-(GAB-GHex)-GLP-1(7-36);
 Gly⁸Arg²⁶Lys^{34,36}-bis-(GAB-GHex)-GLP-1(7-37); Gly⁸Arg³⁴Lys^{26,36}-bis-(GAB-GHex)-GLP-1(7-37);
 Gly⁸Arg²⁶Lys^{34,38}-bis-(GAB-GHex)-GLP-1(7-37); Gly⁸Arg³⁴Lys^{26,36}-bis-(GAB-GHex)-GLP-1(7-37);
 Gly⁸Arg²⁶Lys^{34,38}-bis-(GAB-GHex)-GLP-1(7-38); Gly⁸Arg³⁴Lys^{26,38}-bis-(GAB-GHex)-GLP-1(7-38);
 Gly⁸Arg²⁶Lys^{34,38}-bis-(GAB-GHex)-GLP-1(7-38); Gly⁸Arg²⁶Lys^{34,39}-bis-(GAB-GHex)-GLP-1(7-38);
 Gly⁸Arg²⁶Lys^{34,39}-bis-(GAB-GHex)-GLP-1(7-38); Gly⁸Arg²⁶Lys^{34,39}-bis-(GAB-GHex)-GLP-1(7-38);
- Arg²⁶Lys^{27,34}-bis-(GAB-GHex)-GLP-1(7-36);
 Arg³⁴Lys^{27,26}-bis-(GAB-GHex)-GLP-1(7-36);

 Arg²⁶Lys^{27,34}-bis-(GAB-GHex)-GLP-1(7-37);
 Arg³⁴Lys^{27,26}-bis-(GAB-GHex)-GLP-1(7-37);

 20
 Arg²⁶Lys^{27,34}-bis-(GAB-GHex)-GLP-1(7-38);
 Arg³⁴Lys^{27,26}-bis-(GAB-GHex)-GLP-1(7-37);

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 Arg²⁶Lys^{27,34}-bis-(GAB-GHex)-GLP-1(7-38);
 Arg³⁴Lys^{27,26}-bis-(GAB-GHex)-GLP-1(7-38);

 20
 Arg²⁶Lys^{27,34}-bis-(GAB-GHex)-GLP-1(7-38);
 Arg³⁴Lys^{27,26}-bis-(GAB-GHex)-GLP-1(7-38);

 20
 Arg²⁶Lys^{27,34}-bis-(GAB-GHex)-GLP-1(7-38);
 Arg³⁴Lys^{27,26}-bis-(GAB-GHex)-GLP-1(7-38);

 20
 Arg²⁶Lys^{27,34}-bis-(GAB-GHex)-GLP-1(7-39);
 Arg³⁴Lys^{27,26}-bis-(GAB-GHex)-GLP-1(7-38);

 20
 Arg²⁶Lys^{26,34}-bis-(GAB-GHex)-GLP-1(7-39);
 Arg³⁴Lys^{26,34}-bis-(GAB-GHex)-GLP-1(7-39);

 21
 Gly⁸Lys^{26,34}-bis-(GAB-GHex)-GLP-1(7-36);
 Gly⁸Lys^{26,34}-bis-(GAB-GHex)-GLP-1(7-37);

 22
 Gly⁸Lys^{26,34}-bis-(GAB-GHex)-GLP-1(7-36);
 Gly⁸Lys^{26,34}-bis-(GAB-GHex)-GLP-1(7-37);
- Arg²⁸Lys^{23,34}-bis-(GAB-GHex)-GLP-1(7-36);
 Arg²⁴Lys^{23,28}-bis-(GAB-GHex)-GLP-1(7-36);

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 Arg²⁸Lys^{23,34}-bis-(GAB-GHex)-GLP-1(7-37);
 Arg³⁴Lys^{23,28}-bis-(GAB-GHex)-GLP-1(7-37);

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 Arg²⁶Lys^{23,34}-bis-(GAB-GHex)-GLP-1(7-37);
 Arg³⁴Lys^{23,28}-bis-(GAB-GHex)-GLP-1(7-37);

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 Arg²⁶Lys^{23,34}-bis-(GAB-GHex)-GLP-1(7-38);
 Arg³⁴Lys^{23,28}-bis-(GAB-GHex)-GLP-1(7-38);

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 Arg²⁶Lys^{23,34}-bis-(GAB-GHex)-GLP-1(7-39);
 Arg³⁴Lys^{23,28}-bis-(GAB-GHex)-GLP-1(7-38);

 15
 Arg²⁶Lys^{23,34}-bis-(GAB-GHex)-GLP-1(7-39);
 Arg³⁴Lys^{23,28}-bis-(GAB-GHex)-GLP-1(7-38);

 16
 Arg²⁶Lys^{23,34}-bis-(GAB-GHex)-GLP-1(7-39);
 Arg³⁴Lys^{23,28}-bis-(GAB-GHex)-GLP-1(7-38);

 17
 Arg²⁶Lys^{27,34}-bis-(GAB-GHex)-GLP-1(7-36);
 Arg³⁴Lys^{27,28}-bis-(GAB-GHex)-GLP-1(7-36);

 18
 Arg²⁴Lys^{27,28}-bis-(GAB-GHex)-GLP-1(7-36);
 Arg³⁴Lys^{27,28}-bis-(GAB-GHex)-GLP-1(7-36);
- Arg²⁸Lys^{34,39}-bis-(GAB-GHex)-GLP-1(7-39);
 Arg³⁴Lys^{26,39}-bis-(GAB-GHex)-GLP-1(7-39);

 Arg²⁸Lys^{38,39}-bis-(GAB-GHex)-GLP-1(7-39);
 Arg³⁴Lys^{18,26}-bis-(GAB-GHex)-GLP-1(7-36);

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 Arg²⁸Lys^{18,34}-bis-(GAB-GHex)-GLP-1(7-36);
 Arg³⁴Lys^{18,26}-bis-(GAB-GHex)-GLP-1(7-36);

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 Arg²⁸Lys^{18,34}-bis-(GAB-GHex)-GLP-1(7-37);
 Arg³⁴Lys^{18,26}-bis-(GAB-GHex)-GLP-1(7-36);

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 Arg²⁶Lys^{18,34}-bis-(GAB-GHex)-GLP-1(7-37);
 Arg³⁴Lys^{18,26}-bis-(GAB-GHex)-GLP-1(7-37);

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 Arg²⁶Lys^{18,34}-bis-(GAB-GHex)-GLP-1(7-37);
 Arg³⁴Lys^{18,26}-bis-(GAB-GHex)-GLP-1(7-37);

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 Arg²⁶Lys^{18,34}-bis-(GAB-GHex)-GLP-1(7-38);
 Arg³⁴Lys^{18,26}-bis-(GAB-GHex)-GLP-1(7-38);

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 Arg²⁶Lys^{18,34}-bis-(GAB-GHex)-GLP-1(7-39);
 Arg³⁴Lys^{18,26}-bis-(GAB-GHex)-GLP-1(7-39);

 10
 Arg²⁶Lys^{18,34}-bis-(GAB-GHex)-GLP-1(7-38);
 Arg³⁴Lys^{18,26}-bis-(GAB-GHex)-GLP-1(7-38);

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 Arg²⁶Lys^{18,34}-bis-(GAB-GHex)-GLP-1(7-38);
 Arg³⁴Lys^{18,26}-bis-(GAB-GHex)-GLP-1(7-38);
- Lys^{28,34}-bis-(GAB-GHex)-GLP-1(7-36); Lys^{28,34}-bis-(GAB-GHex)-GLP-1(7-37); Lys^{26,34}-bis-(GAB-GHex)-GLP-1(7-38); Lys^{28,34}-bis-(GAB-GHex)-GLP-1(7-39) 5 Arg²⁶Lys^{34,38}-bis-(GAB-GHex)-GLP-1(7-36); Arg³⁴Lys^{28,38}-bis-(GAB-GHex)-GLP-1(7-37); Arg²⁶Lys^{34,37}-bis-(GAB-GHex)-GLP-1(7-37); Arg³⁴Lys^{28,37}-bis-(GAB-GHex)-GLP-1(7-37);
- 39); Thr⁸Arg³⁴Lys^{28,39}-bis-(GAB-GTet)-GLP-1(7-39); Thr⁸Arg^{28,34}Lys^{38,39}-bis-(GAB-GTet)-GLP-1(7-39);

Val⁸Arg²⁶Lys^{34,37}-bis-(GAB-GHex)-GLP-1(7-37); Val⁸Arg³⁴Lys^{28,37}-bis-(GAB-GHex)-GLP-1(7-37); Val⁸Arg²⁶Lys^{34,39}-bis-(GAB-GHex)-GLP-1(7-38); Val⁸Arg^{26,34}Lys^{36,38}-bis-(GAB-GHex)-GLP-1(7-38); Val⁸Arg^{26,34}Lys^{36,39}-bis-(GAB-GHex)-GLP-1(7-38); Val⁸Arg^{26,34}Lys^{36,39}-bis-(GAB-GHex)-GLP-1(7-38); Val⁸Arg^{26,34}Lys^{36,39}-bis-(GAB-GHex)-GLP-1(7-38); Val⁸Arg^{26,34}Lys^{36,39}-bis-(GAB-GHex)-GLP-1(7-38); Val⁸Arg^{26,34}Lys^{36,39}-bis-(GAB-GHex)-GLP-1(7-38); Val⁸Arg^{26,34}Lys^{36,39}-bis-(GAB-GHex)-GLP-1(7-38); Val⁸Arg^{26,34}Lys^{36,39}-bis-(GAB-GHex)-GLP-1(7-39); Val⁸Arg^{26,34}Lys^{36,39}-bis-(GAB-GHex)-GLP-1(7-30); Val⁸Arg^{26,34}Lys^{36,39}-bis-(GAB-GHex)-GLP-1(7-30); Val⁸Arg^{26,34}Lys^{36,39}-bis-(GAB-GHex)-GLP-1(7-30); Val⁸Arg^{26,34}Lys^{36,39}-bis-(GAB-GHex)-GLP-1(7-30); Val⁸Arg³⁴Lys^{36,34}Lys^{36,39}-bis-(GAB-GHex)-GLP-1(7-30); Val⁸Arg³⁴Lys^{36,34}Lys³

5 1(7-39);

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Ser⁸Lys^{28,34}-bis-(GAB-GHex)-GLP-1(7-36); Ser⁸Lys^{26,34}-bis-(GAB-GHex)-GLP-1(7-37); Ser⁸Lys^{26,34}-bis-(GAB-GHex)-GLP-1(7-39)
 Ser⁸Arg²⁶Lys^{34,35}-bis-(GAB-GHex)-GLP-1(7-36); Ser⁸Arg³⁴Lys^{28,36}-bis-(GAB-GHex)-GLP-1(7-36); Ser⁸Arg²⁶Lys^{34,35}-bis-(GAB-GHex)-GLP-1(7-37); Ser⁸Arg³⁴Lys^{28,36}-bis-(GAB-GHex)-GLP-1(7-37); Ser⁸Arg²⁶Lys^{34,37}-bis-(GAB-GHex)-GLP-1(7-37); Ser⁸Arg³⁴Lys^{28,35}-bis-(GAB-GHex)-GLP-1(7-37); Ser⁸Arg³⁴Lys^{28,35}-bis-(GAB-GHex)-GLP-1(7-37); Ser⁸Arg³⁴Lys^{28,35}-bis-(GAB-GHex)-GLP-1(7-37); Ser⁸Arg³⁴Lys^{28,35}-bis-(GAB-GHex)-GLP-1(7-37); Ser⁸Arg³⁴Lys^{28,35}-bis-(GAB-GHex)-GLP-1(7-37); Ser⁸Arg³⁴Lys^{28,35}-bis-(GAB-GHex)-GLP-1(7-38); Ser⁸Arg³⁴Lys^{28,35}-bis-(GAB-GHex)-GLP-1(7-38); Ser⁸Arg²⁶Lys^{34,39}-bis-(GAB-GHex)-GLP-1(7-38); Ser⁸Arg²⁶Lys^{34,39}-bis-(GAB-GHex)-GLP-1(7-38); Ser⁸Arg²⁶Lys^{34,39}-bis-(GAB-GHex)-GLP-1(7-38); Ser⁸Arg²⁶Lys^{34,39}-bis-(GAB-GHex)-GLP-1(7-38); Ser⁸Arg^{26,34}Lys^{36,39}-bis-(GAB-GHex)-GLP-1(7-39); Ser⁸Arg^{26,34}Lys^{36,39}-bis-(SAB-GHex)-GLP-1(7-39); Ser⁸Arg^{26,34}Lys^{36,39}-bis-(SAB-GHex)-GLP-1(7-39); Ser⁸Arg^{26,34}Lys^{36,39}-bis-(SAB-GHex)-GLP-1(7-39); Ser⁸Arg^{26,34}Lys^{36,39}-bis-(SAB-GHex)-GLP-1(7-39); Ser⁸Arg^{26,34}Lys^{36,39}-bis-(SAB-GHex)-GLP-1(7-39); Ser⁸Arg

Thr⁸Lys^{26,34}-bis-(GAB-GHex)-GLP-1(7-36); Thr⁸Lys^{26,34}-bis-(GAB-GHex)-GLP-1(7-37); Thr⁸Lys^{26,34}-bis-(GAB-GHex)-GLP-1(7-38); Thr⁸Lys^{26,34}-bis-(GAB-GHex)-GLP-1(7-39)
 Thr⁸Arg²⁶Lys^{34,36}-bis-(GAB-GHex)-GLP-1(7-36); Thr⁸Arg³⁴Lys^{26,38}-bis-(GAB-GHex)-GLP-1(7-36); Thr⁸Arg²⁶Lys^{34,36}-bis-(GAB-GHex)-GLP-1(7-37); Thr⁸Arg²⁶Lys^{34,36}-bis-(GAB-GHex)-GLP-1(7-37); Thr⁸Arg²⁶Lys^{34,36}-bis-(GAB-GHex)-GLP-1(7-37); Thr⁸Arg²⁶Lys^{34,38}-bis-(GAB-GHex)-GLP-1(7-37); Thr⁸Arg²⁶Lys^{34,38}-bis-(GAB-GHex)-GLP-1(7-37); Thr⁸Arg²⁶Lys^{34,38}-bis-(GAB-GHex)-GLP-1(7-37); Thr⁸Arg³⁴Lys^{26,38}-bis-(GAB-GHex)-GLP-1(7-37);

Thr^aArg^{26,34}Lys^{36,38}-bis-(GAB-GHex)-GLP-1(7-38); Thr^aArg²⁶Lys^{34,39}-bis-(GAB-GHex)-GLP-1(7-39); Thr^aArg³⁴Lys^{26,39}-bis-(GAB-GHex)-GLP-1(7-39); Thr^aArg^{26,34}Lys^{36,39}-bis-(GAB-GHex)-GLP-1(7-39);

Lys^{28,34}-bis-(GAB-GOct)-GLP-1(7-36); Lys^{28,34}-bis-(GAB-GOct)-GLP-1(7-37); Lys^{28,34}-bis-(GAB-GOct)-GLP-1(7-38); Lys^{28,34}-bis-(GAB-GOct)-GLP-1(7-39)

 Arg²⁶Lys^{34,36}-bis-(GAB-GOct)-GLP-1(7-36);
 Arg³⁴Lys^{26,36}-bis-(GAB-GOct)-GLP-1(7-36);

 Arg²⁶Lys^{34,36}-bis-(GAB-GOct)-GLP-1(7-37);
 Arg³⁴Lys^{26,37}-bis-(GAB-GOct)-GLP-1(7-37);

 Arg²⁶Lys^{34,39}-bis-(GAB-GOct)-GLP-1(7-37);
 Arg³⁴Lys^{26,37}-bis-(GAB-GOct)-GLP-1(7-37);

 Arg²⁶Lys^{34,39}-bis-(GAB-GOct)-GLP-1(7-39);
 Arg³⁴Lys^{26,39}-bis-(GAB-GOct)-GLP-1(7-39);

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 Arg^{26,34}Lys^{36,39}-bis-(GAB-GOct)-GLP-1(7-39);

 Arg²⁸Lys^{18,24}-bis-(GAB-GOct)-GLP-1(7-36);
 Arg³⁴Lys^{18,28}-bis-(GAB-GOct)-GLP-1(7-36);

 Arg²⁵Lys^{18,24}-bis-(GAB-GOct)-GLP-1(7-37);
 Arg³⁴Lys^{18,28}-bis-(GAB-GOct)-GLP-1(7-37);

 Arg²⁵Lys^{18,34}-bis-(GAB-GOct)-GLP-1(7-38);
 Arg³⁴Lys^{18,28}-bis-(GAB-GOct)-GLP-1(7-38);

 Arg²⁶Lys^{18,34}-bis-(GAB-GOct)-GLP-1(7-39);
 Arg³⁴Lys^{18,28}-bis-(GAB-GOct)-GLP-1(7-38);

Ser⁸Lys^{26,34}-bis-(GAB-GOct)-GLP-1(7-38); Ser⁸Lys^{26,34}-bis-(GAB-GOct)-GLP-1(7-39) Ser⁸Arg²⁶Lys^{34,36}-bis-(GAB-GOct)-GLP-1(7-36); Ser⁸Arg³⁴Lys^{26,36}-bis-(GAB-GOct)-GLP-1(7-36); Ser⁸Arg²⁶Lys^{34,36}-bis-(GAB-GOct)-GLP-1(7-37); Ser⁸Arg³⁴Lys^{26,36}-bis-(GAB-GOct)-GLP-1(7-37); 30 Ser⁸Arg²⁶Lys^{34,37}-bis-(GAB-GOct)-GLP-1(7-37); Ser⁸Arg³⁴Lys^{26,37}-bis-(GAB-GOct)-GLP-1(7-37); Ser⁸Arg²⁶Lys^{34,38}-bis-(GAB-GOct)-GLP-1(7-38); Ser⁸Arg³⁴Lys^{28,38}-bis-(GAB-GOct)-GLP-1(7-38); Ser⁸Arg^{26,34}Lys^{36,38}-bis-(GAB-GOct)-GLP-1(7-38); Ser⁸Arg²⁶Lys^{34,39}-bis-(GAB-GOct)-GLP-1(7-

- Val⁸Arg²⁶Lys^{34,36}-bis-(GAB-GOct)-GLP-1(7-37); Val⁸Arg³⁴Lys^{26,36}-bis-(GAB-GOct)-GLP-1(7-37); Val[®]Arg²⁶Lys^{24,37}-bis-(GAB-GOct)-GLP-1(7-37); Val[®]Arg³⁴Lys^{26,37}-bis-(GAB-GOct)-GLP-1(7-37); Val⁸Arg²⁶Lys^{34,38}-bis-(GAB-GOct)-GLP-1(7-38); Val⁸Arg³⁴Lys^{26,38}-bis-(GAB-GOct)-GLP-1(7-38); Val8Arg26Lys34,39-bis-(GAB-GOct)-GLP-1(7-Val⁸Arg^{26,34}Lys^{36,38}-bis-(GAB-GOct)-GLP-1(7-38); 39); Val⁸Arg³⁴Lys^{26,39}-bis-(GAB-GOct)-GLP-1(7-39); Val⁸Arg^{26,34}Lys^{36,39}-bis-(GAB-GOct)-GLP-25 1(7-39); Ser[®]Lys^{26,34}-bis-(GAB-GOct)-GLP-1(7-37);
- 1(7-39); Val⁸Lys^{26,34}-bis-(GAB-GOct)-GLP-1(7-36); Val⁸Lys^{26,34}-bis-(GAB-GOct)-GLP-1(7-37); Val⁸Lys^{26,34}-bis-(GAB-GOct)-GLP-1(7-38); Val⁸Lys^{26,34}-bis-(GAB-GOct)-GLP-1(7-39) Val[®]Arg²⁶Lys^{34,36}-bis-(GAB-GOct)-GLP-1(7-36); Val[®]Arg³⁴Lys^{26,36}-bis-(GAB-GOct)-GLP-1(7-36); 20
- Gly⁸Lys^{28,34}-bis-(GAB-GOct)-GLP-1(7-38); Gly⁸Lys^{28,34}-bis-(GAB-GOct)-GLP-1(7-39) 10 Gły⁸Arg²⁶Lys^{34,36}-bis-(GAB-GOct)-GLP-1(7-36); Gly⁸Arg³⁴Lys^{26,36}-bis-(GAB-GOct)-GLP-1(7-36); Gly⁸Arg²⁶Lys^{34,36}-bis-(GAB-GOct)-GLP-1(7-37); Gly⁸Arg³⁴Lys^{26,36}-bis-(GAB-GOct)-GLP-1(7-37); Gly⁸Arg²⁶Lys^{34,37}-bis-(GAB-GOct)-GLP-1(7-37); Gly⁸Arg³⁴Lys^{26,37}-bis-(GAB-GOct)-GLP-1(7-37); Gly⁸Arg²⁶Lys^{34,38}-bis-(GAB-GOct)-GLP-1(7-38); Gly⁸Arg³⁴Lys^{26,38}-bis-(GAB-GOct)-GLP-1(7-38); Gly⁸Arg^{26,34}Lys^{36,38}-bis-(GAB-GOct)-GLP-1(7-38); Gly8Arg26Lys34,39-bis-(GAB-GOct)-GLP-1(7-15 39); Gly⁸Arg³⁴Lys^{28,39}-bis-(GAB-GOct)-GLP-1(7-39); Gly⁸Arg^{28,34}Lys^{38,39}-bis-(GAB-GOct)-GLP-
- Arg²⁶Lys^{23,34}-bis-(GAB-GOct)-GLP-1(7-39); Arg³⁴Lys^{23,26}-bis-(GAB-GOct)-GLP-1(7-39); Arg³⁴Lys^{27,26}-bis-(GAB-GOct)-GLP-1(7-36); Arg²⁶Lys^{27,34}-bis-(GAB-GOct)-GLP-1(7-36): 5 Arg³⁴Lys^{27,26}-bis-(GAB-GOct)-GLP-1(7-37); Arg²⁶Lys^{27,34}-bis-(GAB-GOct)-GLP-1(7-37); Arg³⁴Lys^{27,26}-bis-(GAB-GOct)-GLP-1(7-38); Arg²⁶Lys^{27,34}-bis-(GAB-GOct)-GLP-1(7-38); Arg²⁶Lys^{27,34}-bis-(GAB-GOct)-GLP-1(7-39); Arg³⁴Lys^{27,26}-bis-(GAB-GOct)-GLP-1(7-39); Gly⁸Lys^{26,34}-bis-(GAB-GOct)-GLP-1(7-37); Glv⁸Lvs^{26,34}-bis-(GAB-GOct)-GLP-1(7-36);

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Arg³⁴Lys^{23,26}-bis-(GAB-GOct)-GLP-1(7-36); Arg³⁴Lys^{23,26}-bis-(GAB-GOct)-GLP-1(7-37); Arg³⁴Lys^{23,26}-bis-(GAB-GOct)-GLP-1(7-38);

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Arg²⁶Lys^{23,34}-bis-(GAB-GOct)-GLP-1(7-36);

Arg²⁶Lys^{23,34}-bis-(GAB-GOct)-GLP-1(7-37);

Arg²⁶Lys^{23,34}-bis-(GAB-GOct)-GLP-1(7-38);

Ser⁸Lys^{26,34}-bis-(GAB-GOct)-GLP-1(7-36);

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	Arg ²⁶ Lys ^{27,34} -bis-(GAB-GLit)-GLP-1(7-37);	Arg ³⁴ Lys ^{27,26} -bis-(GAB-GLit)-GLP-1(7-37);	
	Arg ²⁶ Lys ^{27,34} -bis-(GAB-GLit)-GLP-1(7-38);	Arg ³⁴ Lys ^{27,26} -bis-(GAB-GLit)-GLP-1(7-38);	
30	30 Arg ²⁶ Lys ^{27,34} -bis-(GAB-GLit)-GLP-1(7-39); Arg ³⁴ Lys ^{27,26} -bis-(GAB-GLit)-GLP-1(7-39);		
	Gly ⁸ Lys ^{26,34} -bis-(GAB-GLit)-GLP-1(7-36); Gly ⁸ Ly	vs ^{28,34} -bis-(GAB-GLit)-GLP-1(7-37); Gly ⁸ Lys ^{26,34} -	
	bis-(GAB-GLit)-GLP-1(7-38);		
	Gly ⁸ Arg ²⁶ Lys ^{34,36} -bis-(GAB-GLit)-GLP-1(7-36);	Gly ⁸ Arg ³⁴ Lys ^{28,38} -bis-(GAB-GLit)-GLP-1(7-36);	
	Gly ⁸ Arg ²⁶ Lys ^{34,36} -bis-(GAB-GLit)-GLP-1(7-37);	Gly8Arg34Lys26,38-bis-(GAB-GLit)-GLP-1(7-37);	

- Arg³⁴Lys^{18,26}-bis-(GAB-GLit)-GLP-1(7-37); Arg²⁶Lys^{18,34}-bis-(GAB-GLit)-GLP-1(7-37); 20 Arg²⁶Lys^{18,34}-bis-(GAB-GLit)-GLP-1(7-38); Arg³⁴Lys^{18,26}-bis-(GAB-GLit)-GLP-1(7-38); Arg²⁶Lys^{18,34}-bis-(GAB-GLit)-GLP-1(7-39); Arg³⁴Lys^{18,26}-bis-(GAB-GLit)-GLP-1(7-39); Arg³⁴Lys^{23,26}-bis-(GAB-GLit)-GLP-1(7-36); Arg²⁶Lys^{23,34}-bis-(GAB-GLit)-GLP-1(7-36); Arg³⁴Lys^{23,26}-bis-(GAB-GLit)-GLP-1(7-37); Arg²⁶Lys^{23,34}-bis-(GAB-GLit)-GLP-1(7-37); Arg³⁴Lys^{23,26}-bis-(GAB-GLit)-GLP-1(7-38); Arg²⁶Lys^{23,34}-bis-(GAB-GLit)-GLP-1(7-38); 25 Arg26Lys23,34-bis-(GAB-GLit)-GLP-1(7-39); Arg34Lys23.26-bis-(GAB-GLit)-GLP-1(7-39); Arg³⁴Lvs^{27,26}-bis-(GAB-GLit)-GLP-1(7-36); Arg²⁶Lys^{27,34}-bis-(GAB-GLit)-GLP-1(7-36);
- Arg²⁸Lys^{34,36}-bis-(GAB-GLit)-GLP-1(7-36);
 Arg³⁴Lys^{26,36}-bis-(GAB-GLit)-GLP-1(7-36);

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 Arg²⁶Lys^{34,37}-bis-(GAB-GLit)-GLP-1(7-37);
 Arg³⁴Lys^{26,36}-bis-(GAB-GLit)-GLP-1(7-37);

 Arg²⁶Lys^{34,37}-bis-(GAB-GLit)-GLP-1(7-37);
 Arg³⁴Lys^{26,37}-bis-(GAB-GLit)-GLP-1(7-37);

 Arg²⁵Lys^{34,39}-bis-(GAB-GLit)-GLP-1(7-39);
 Arg³⁴Lys^{26,39}-bis-(GAB-GLit)-GLP-1(7-39);

 Arg²⁵Lys^{18,39}-bis-(GAB-GLit)-GLP-1(7-39);
 Arg³⁴Lys^{36,39}-bis-(GAB-GLit)-GLP-1(7-39);

 Arg²⁵Lys^{18,34}-bis-(GAB-GLit)-GLP-1(7-36);
 Arg³⁴Lys^{18,26}-bis-(GAB-GLit)-GLP-1(7-36);
- 1(7-39); Lys^{28,34}-bis-(GAB-GLit)-GLP-1(7-36); Lys^{28,34}-bis-(GAB-GLit)-GLP-1(7-37); Lys^{28,34}-bis-(GAB-GLit)-GLP-1(7-38); Lys^{28,34}-bis-(GAB-GLit)-GLP-1(7-39)
- Thr^aLys^{28,34}-bis-(GAB-GOct)-GLP-1(7-38); Thr^aLys^{26,34}-bis-(GAB-GOct)-GLP-1(7-39)
 Thr^aArg²⁶Lys^{34,36}-bis-(GAB-GOct)-GLP-1(7-36); Thr^aArg³⁴Lys^{26,35}-bis-(GAB-GOct)-GLP-1(7-36); Thr^aArg²⁶Lys^{34,36}-bis-(GAB-GOct)-GLP-1(7-37); Thr^aArg²⁶Lys^{34,36}-bis-(GAB-GOct)-GLP-1(7-37); Thr^aArg²⁶Lys^{34,36}-bis-(GAB-GOct)-GLP-1(7-37); Thr^aArg²⁶Lys^{34,36}-bis-(GAB-GOct)-GLP-1(7-38); Thr^aArg³⁴Lys^{28,38}-bis-(GAB-GOct)-GLP-1(7-38); Thr^aArg²⁶Lys^{34,38}-bis-(GAB-GOct)-GLP-1(7-38); Thr^aArg²⁶Lys^{34,38}-bis-(GAB-GOct)-GLP-1(7-38); Thr^aArg²⁶Lys^{34,38}-bis-(GAB-GOct)-GLP-1(7-38); Thr^aArg²⁶Lys^{34,39}-bis-(GAB-GOct)-GLP-1(7-38); Thr^aArg^{26,34}Lys^{36,39}-bis-(GAB-GOct)-GLP-1(7-38); Thr^aArg^{26,34}Lys^{36,39}-bis-(GAB-GOct)-GLP-1(7-38); Thr^aArg^{26,34}Lys^{36,39}-bis-(GAB-GOct)-GLP-1(7-38); Thr^aArg^{26,34}Lys^{36,39}-bis-(GAB-GOct)-GLP-1(7-38); Thr^aArg^{26,34}Lys^{36,39}-bis-(GAB-GOct)-GLP-1(7-38); Thr^aArg^{26,34}Lys^{36,39}-bis-(GAB-GOct)-GLP-1(7-38); Thr^aArg^{26,34}Lys^{36,39}-bis-(GAB-GOct)-GLP-1(7-38); Thr^aArg³⁴Lys^{36,39}-bis-(GAB-GOct)-GLP-1(7-38); Thr^aArg³⁴Lys^{36,39}-bis-(GAB-GOct)-GLP-1(7-38); Thr^aArg³⁴Lys^{36,39}-bis-(GAB-GOct)-GLP-1(7-38); Thr^aArg³⁴Lys^{36,39}-bis-(GAB-GOct)-GLP-1(7-38); Thr^aArg³⁴Lys^{36,39}-bis-(GAB-GOct)-GLP-1(7-38); Thr^aArg³⁴Lys^{36,39}-bis-(GAB-GOct)-GLP-1(7-38); Thr^aArg³⁴Lys³⁴-bis-(GAB-GOct)-GLP-1(7-38); Thr^aArg³⁴Lys³⁴-bis-(GAB-GOct)-GLP-1(7-38); Thr^aArg³⁴Lys³⁴-bis-(GAB-GOct)-GLP-1(7-38); Thr³⁴Lys³⁴-bis-(GAB-GOct)-GLP-1(7-38); Thr
- 39); Ser⁸Arg³⁴Lys^{26,39}-bis-(GAB-GOct)-GLP-1(7-39); Ser⁸Arg^{26,34}Lys^{38,39}-bis-(GAB-GOct)-GLP-1(7-39);

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Thr^aLys^{26,34}-bis-(GAB-GOct)-GLP-1(7-36);

Thr^aLys^{28,34}-bis-(GAB-GOct)-GLP-1(7-37);

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Gly⁸Arg³⁴Lys^{26,37}-bis-(GAB-GLit)-GLP-1(7-37); Glv⁸Arg²⁶Lys^{34,37}-bis-(GAB-GLit)-GLP-1(7-37); Glv⁸Arg²⁶Lys^{34,38}-bis-(GAB-GLit)-GLP-1(7-38); Gly⁸Arg³⁴Lys^{26,38}-bis-(GAB-GLit)-GLP-1(7-38); Glv⁸Arg^{26,34}Lys^{36,38}-bis-(GAB-GLit)-GLP-1(7-38); Gly8Arg26Lys34,39-bis-(GAB-GLit)-GLP-1(7-39); Gly⁸Arg³⁴Lys^{26,39}-bis-(GAB-GLit)-GLP-1(7-39); Gly⁸Arg^{26,34}Lys^{36,39}-bis-(GAB-GLit)-GLP-1(7-39); Val[®]Lys^{26,34}-bis-(GAB-GLit)-GLP-1(7-36); Val[®]Lys^{26,34}-bis-(GAB-GLit)-GLP-1(7-37); Val[®]Lys^{26,34}-

Val⁸Arg²⁶Lvs^{34,36}-bis-(GAB-GLit)-GLP-1(7-36); Val⁸Arg³⁴Lys^{26,36}-bis-(GAB-GLit)-GLP-1(7-36); Val⁸Arg³⁴Lys^{26,36}-bis-(GAB-GLit)-GLP-1(7-37); Val⁸Arg²⁶Lvs^{34,36}-bis-(GAB-GLit)-GLP-1(7-37); Val⁸Arg²⁶Lys^{34,37}-bis-(GAB-GLit)-GLP-1(7-37); Val⁸Arg³⁴Lys^{26,37}-bis-(GAB-GLit)-GLP-1(7-37); Val⁸Arg²⁶Lys^{34,38}-bis-(GAB-GLit)-GLP-1(7-38); Val[®]Arg³⁴Lys^{28,38}-bis-(GAB-GLit)-GLP-1(7-38); Val⁸Arg^{26,34}Lys^{36,38}-bis-(GAB-GLit)-GLP-1(7-38); Val[®]Arg²⁶Lys^{34,39}-bis-(GAB-GLit)-GLP-1(7-39);

- bis-(GAB-GLit)-GLP-1(7-38); Val⁸Lys^{26,34}-bis-(GAB-GLit)-GLP-1(7-39)
- Val[®]Arg³⁴Lvs^{26,39}-bis-(GAB-GLit)-GLP-1(7-39); Val[®]Arg^{26,34}Lvs^{36,39}-bis-(GAB-GLit)-GLP-1(7-39); Ser⁸Lvs^{26,34}-bis-(GAB-GLit)-GLP-1(7-36); Ser⁸Lvs^{26,34}-bis-(GAB-GLit)-GLP-1(7-37); Ser⁸Lys^{26,34}bis-(GAB-GLit)-GLP-1(7-38); Ser⁸Lys^{26,34}-bis-(GAB-GLit)-GLP-1(7-39) Ser8Arg26Lys34,36-bis-(GAB-GLit)-GLP-1(7-36); Ser⁸Arg³⁴Lys^{26,36}-bis-(GAB-GLit)-GLP-1(7-36);
- 15 Ser⁸Arg²⁶Lvs^{34,36}-bis-(GAB-GLit)-GLP-1(7-37); Ser⁸Arg³⁴Lys^{28,36}-bis-(GAB-GLit)-GLP-1(7-37); Ser⁸Arg²⁶Lys^{34,37}-bis-(GAB-GLit)-GLP-1(7-37); Ser⁸Arg³⁴Lys^{28,37}-bis-(GAB-GLit)-GLP-1(7-37); Ser⁸Arg³⁴Lys^{26,38}-bis-(GAB-GLit)-GLP-1(7-38); Ser⁸Arg²⁶Lys^{34,38}-bis-(GAB-GLit)-GLP-1(7-38); Ser⁸Arg^{26,34}Lys^{36,38}-bis-(GAB-GLit)-GLP-1(7-38); Ser⁸Arg²⁶Lys^{34,39}-bis-(GAB-GLit)-GLP-1(7-39);
- Ser⁸Arg³⁴Lys^{26,39}-bis-(GAB-GLit)-GLP-1(7-39); Ser⁸Arg^{26,34}Lys^{36,39}-bis-(GAB-GLit)-GLP-1(7-39); 20 Thr⁸Lys^{26,34}-bis-(GAB-GLit)-GLP-1(7-36); Thr⁸Lys^{26,34}-bis-(GAB-GLit)-GLP-1(7-37); Thr⁸Lys^{26,34}bis-(GAB-GLit)-GLP-1(7-38); Thr⁸Lys^{26,34}-bis-(GAB-GLit)-GLP-1(7-39)

Thr^aArg²⁶Lys^{34,36}-bis-(GAB-GLit)-GLP-1(7-36); Thr⁸Arg²⁶Lys^{34,36}-bis-(GAB-GLit)-GLP-1(7-37);

25 Thr⁸Arg²⁶Lys^{34,37}-bis-(GAB-GLit)-GLP-1(7-37); Thr⁸Arg²⁸Lys^{34,38}-bis-(GAB-GLit)-GLP-1(7-38); Thr⁸Arg^{26,34}Lys^{36,38}-bis-(GAB-GLit)-GLP-1(7-38);

Thr⁸Arg³⁴Lys^{28,38}-bis-(GAB-GLit)-GLP-1(7-36); Thr8Arg34Lys2636-bis-(GAB-GLit)-GLP-1(7-37); Thr⁸Arg³⁴Lys^{26,37}-bis-(GAB-GLit)-GLP-1(7-37); Thr⁸Arg³⁴Lys^{26,38}-bis-(GAB-GLit)-GLP-1(7-38); Thr8Arg26Lys34,39-bis-(GAB-GLit)-GLP-1(7-39); Thr⁸Arg³⁴Lys^{26,39}-bis-(GAB-GLit)-GLP-1(7-39); Thr⁸Arg^{26,34}Lys^{38,39}-bis-(GAB-GLit)-GLP-1(7-39).

30 Pharmaceutical compositions

The present invention also relates to pharmaceutical compositions comprising a derivative of a GLP-1 analog of the present invention and a pharmaceutically acceptable vehicle or carrier.

Preferably, the pharmaceutical compositions comprise an isotonic agent, a preservative and a buffer. Examples of isotonic agents are sodium chloride, mannitol and glycerol. Examples of preservatives are phenol, m-cresol, methyl p-hydroxybenzoate and benzyl alcohol. Suitable buffers include sodium acetate and sodium phosphate.

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The pharmaceutical compositions preferably further comprise a surfactant in order to improve the solubility and/or the stability of the GLP-1 derivative.

The pharmaceutical compositions preferably also comprise zinc.

The pharmaceutial compositions preferably further comprise another antidiabetic agent. The term "antidiabetic agent" includes compounds for the treatment and/or prophylaxis of insulin resistance and diseases wherein insulin resistance is the pathophysiological mechanism.

In one embodiment of this invention, the antidiabetic agent is an insulin, more preferably human insulin.

In another embodiment the antidiabetic agent is a hypoglycaemic agent, preferably an oral hypoglycaemic agent. Oral hypoglycaemic agents are preferably selected from the group consisting of sulfonylureas, biguanides, thiazolidinediones, glucosidase inhibitors, glucagon antagonists, GLP-1 agonists, potasium channel openers, insulin sensitizers, hepatic enzyme inhibitors, glucose uptake modulators, compounds modifying the lipid metabolism, compounds lowering food intake, and agents acting on the ATP-dependent potassium channel of the ß-cells. Preferred sulfonylureas are tolbutamide, glibenclamide, glipizide and gliclazide. A preferred biguanide is metformin. Preferred thiazolidinediones are troglitazone and ciglitazone. A preferred glucosidase inhibitors is acarbose. Preferred agents acting on the ATP-dependent potassium channel of the ß-cells are: glibenclamide, glipizide, gliclazide, and repaglinide.

The pharmaceutical compositions of the present invention may be administered parenterally to patients in need of such a treatment. Parenteral administration may be performed by subcutaneous, intramuscular or intravenous injection by means of a syringe, optionally a pen-like syringe. Alternatively, parenteral administration can be performed by means of an infusion pump. A further option is a composition which may be a powder or a liquid for the administration of the GLP-1 derivative in the form of a nasal or pulmonal spray. As a still further option, the GLP-1 derivatives of the invention can also be administered transdermally, *e.g.* from a patch, optionally a iontophoretic patch, or transmucosally, *e.g.* bucally.

The pharmaceutical compositions of the present invention may be prepared by conventional techniques, *e.g.* as described in Remington's *Pharmaceutical Sciences*, 1985 or in Remington: *The Science and Practice of Pharmacy*, 19th edition, 1995.

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For example, injectable compositions of the GLP-1 derivative of the invention can be prepared using the conventional techniques of the pharmaceutical industry which involves dissolving and mixing the ingredients as appropriate to give the desired end product.

A composition for nasal administration of certain peptides may, for example, be prepared as described in European Patent No. 272097 (to Novo Nordisk A/S) or in WO 93/18785.

In a preferred embodiment of the present invention, the GLP-1 derivative is provided in the form of a composition suitable for administration by injection. Such a composition can either be an injectable solution ready for use or it can be an amount of a solid composition, *e.g.* a lyophilised product, which has to be dissolved in a solvent before it can be injected. The injectable solution preferably contains not less than about 2 mg/ml, preferably not less than about 5 mg/ml, more preferred not less than about 10 mg/ml of the GLP-1 derivative and, preferably, not more than about 100 mg/ml of the GLP-1 derivative.

Uses

The present invention also relates to the use of a GLP-1 derivative of the invention for the preparation of a medicament which has a protracted profile of action relative to GLP-1(7-37).

The present invention relates also to the use of a GLP-1 derivative of the invention for the preparation of a medicament with protracted effect for the treatment of non-insulin dependent diabetes mellitus.

The present invention also relates to the use of a GLP-1 derivative of the invention for the preparation of a medicament with protracted effect for the treatment of insulin dependent diabetes mellitus.

The present invention also relates to the use of a GLP-1 derivative of the invention for the preparation of a medicament with protracted effect for the treatment of obesity.

In a further preferred embodiment, the present invention relates to a method of treating insulin dependent or non-insulin dependent diabetes mellitus in a patient in need of such a treatment, comprising administering to the patient a therapeutically effective amount of a derivative of GLP-1 analog of the present invention together with a pharmaceutically acceptable carrier.

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Methods of Production

The parent peptide can be produced by a method which comprises culturing a host cell containing a DNA sequence encoding the polypeptide and capable of expressing the poly-

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peptide in a suitable nutrient medium under conditions permitting the expression of the peptide, after which the resulting peptide is recovered from the culture.

The medium used to culture the cells may be any conventional medium suitable for growing the host cells, such as minimal or complex media containing appropriate supplements. Suitable media are available from commercial suppliers or may be prepared of published recipes (*e.g.* in catalogues of the American Type Culture Collection). The peptide produced by the cells may then be recovered from the culture medium by conventional procedures including separating the host cells from the medium by centrifugation or filtration, precipitating the proteinaceous components of the supernatant or filtrate by means of a salt, *e.g.* ammonium sulphate, purification by a variety of chromatographic procedures, *e.g.* ion exchange chromatography, gel filtration chromatography, affinity chromatography, or the like, dependent on the type of peptide in guestion.

The DNA sequence encoding the parent peptide may suitably be of genomic or cDNA origin, for instance obtained by preparing a genomic or cDNA library and screening for DNA sequences coding for all or part of the peptide by hybridisation using synthetic oligonucleotide probes in accordance with standard techniques (see, for example, Sambrook, J, Fritsch, EF and Maniatis, T, *Molecular Cloning: A Laboratory Manual*, Cold Spring Harbor Laboratory Press, New York, 1989). The DNA sequence encoding the peptide may also be prepared synthetically by established standard methods, *e.g.* the phosphoamidite method described by Beaucage and Caruthers, *Tetrahedron Letters* 22 (1981), 1859 - 1869, or the method described by Matthes *et al.*, *EMBO Journal* 3 (1984), 801 - 805. The DNA sequence may also be prepared synted by polymerase chain reaction using specific primers, for instance as described in US 4,683,202 or Saiki *et al.*, *Science* 239 (1988), 487 - 491.

The DNA sequence may be inserted into any vector which may conveniently be subjected to recombinant DNA procedures, and the choice of vector will often depend on the host cell into which it is to be introduced. Thus, the vector may be an autonomously replicating vector, *i.e.* a vector which exists as an extrachromosomal entity, the replication of which is independent of chromosomal replication, *e.g.* a plasmid. Alternatively, the vector may be one which, when introduced into a host cell, is integrated into the host cell genome and replicated together with the chromosome(s) into which it has been integrated.

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The vector is preferably an expression vector in which the DNA sequence encoding the peptide is operably linked to additional segments required for transcription of the DNA, such as a promoter. The promoter may be any DNA sequence which shows transcriptional activity in the host cell of choice and may be derived from genes encoding proteins either homo188

logous or heterologous to the host cell. Examples of suitable promoters for directing the transcription of the DNA encoding the peptide of the invention in a variety of host cells are well known in the art, cf. for instance Sambrook *et al.*, *supra*.

The DNA sequence encoding the peptide may also, if necessary, be operably connected to a suitable terminator, polyadenylation signals, transcriptional enhancer sequences, and translational enhancer sequences. The recombinant vector of the invention may further comprise a DNA sequence enabling the vector to replicate in the host cell in question.

The vector may also comprise a selectable marker, *e.g.* a gene the product of which complements a defect in the host cell or one which confers resistance to a drug, *e.g.* ampicillin, kanamycin, tetracyclin, chloramphenicol, neomycin, hygromycin or methotrexate.

To direct a parent peptide of the present invention into the secretory pathway of the host cells, a secretory signal sequence (also known as a leader sequence, prepro sequence or pre sequence) may be provided in the recombinant vector. The secretory signal sequence is joined to the DNA sequence encoding the peptide in the correct reading frame. Secretory signal sequences are commonly positioned 5' to the DNA sequence encoding the peptide. The secretory signal sequence may be that normally associated with the peptide or may be from a gene encoding another secreted protein.

The procedures used to ligate the DNA sequences coding for the present peptide, the promoter and optionally the terminator and/or secretory signal sequence, respectively, and to insert them into suitable vectors containing the information necessary for replication, are well known to persons skilled in the art (cf., for instance, Sambrook *et al.., supra*).

The host cell into which the DNA sequence or the recombinant vector is introduced may be any cell which is capable of producing the present peptide and includes bacteria, yeast, fungi and higher eukaryotic cells. Examples of suitable host cells well known and used in the art are, without limitation, *E. coli*, *Saccharomyces cerevisiae*, or mammalian BHK or CHO cell lines.

The GLP-1 derivatives of this invention can be used in the treatment of various diseases. The particular GLP-1 derivative to be used and the optimal dose level for any patient will depend on the disease to be treated and on a variety of factors including the efficacy of the specific peptide derivative employed, the age, body weight, physical activity, and diet of the patient, on a possible combination with other drugs, and on the severity of the case. It is recommended that the dosage of the GLP-1 derivative of this invention be determined for each individual patient by those skilled in the art.

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In particular, it is envisaged that the GLP-1 derivative will be useful for the preparation of a medicament with a protracted profile of action for the treatment of non-insulin dependent diabetes mellitus and/or for the treatment of obesity.

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The present invention is further illustrated by the following examples which, however, are not to be construed as limiting the scope of protection. The features disclosed in the foregoing description and in the following examples may, both separately and in any combination thereof, be material for realising the invention in diverse forms thereof.

EXAMPLES

The following acronyms for commercially available chemicals are used:

	DMF :	N,N-Dimethylformamide.
	DCC :	N,N-Dicyclohexylcarbodiimide
	NMP :	N-Methyl-2-pyrrolidone.
	EDPA :	N-Ethyl-N,N-diisopropylamine.
15	EGTA :	Ethylene glycol-bis(β-aminoethyl ether)-N,N,N',N'-tetraacetic acid.
	GTP	Guanosine 5'-triphosphate.
	TFA :	Trifluoroacetic acid.
	THF :	Tetrahydrofuran
	H-Glu(OH)-OBu ^t :	L-Glutamic acid α -tert-butyl ester
20	Cap-ONSu:	Octanoic acid 2,5-dioxopyrrolidin-1-yl ester
Lau-ONSu: Dodecano		Dodecanoic acid 2,5-dioxopyrrolidin-1-yl ester
	Myr-ONSu:	Tetradecanoic acid 2,5-dioxopyrrolidin-1-yl ester.
	Pal-ONSu:	Hexadecanoic acid 2,5-dioxopyrrolidin-1-yl ester.
	Ste-ONSu	Octadecanoic acid 2,5-dioxopyrrolidin-1-yl ester.
25	Cac-ONSu:	Decanoic acid 2,5-dioxopyrrolidin-1-yl ester.
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Abbreviations:

PDMS: Plasma Desorption Mass Spectrometry

MALDI-MS: Matrix Assisted Laser Desorption/Ionisation Mass Spectrometry

30 HPLC: High Performance Liquid Chromatography

amu: atomic mass units

Lit-Glu(ONSu)-OBu^t: N^{α}-Lithochoyl-L-glutamic acid α -t-butyl ester γ -2,5-dioxopyrrolidin-1-yl

ester

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Cap-Glu(ONSu)-OBut:	N [∞] -OctanoyI-L-glutamic acid α-t-butyl ester γ-2,5-dioxopyrrolidin-1-		
yl ester	· · · · ·		
Cac-Glu(ONSu)-OBut:	N ^{α} -Decanoyl-L-glutamic acid α -t-butyl ester γ-2,5-dioxopyrrolidin-		
1-yl ester	· · · · · · · · · · · · · · · · · · ·		
Lau-Glu(ONSu)-OBu ^t :	N ^α -Dodecanoyl-L-glutamic acid α-t-butyl ester γ-2,5-		
dioxopyrrolidin-1-yl ester			
Myr-Glu(ONSu)-OBu ^t :	N ^α -Tetradecanoyl-L-glutamic acid α-t-butyl ester γ-2,5-		
dioxopyrrolidin-1-yl ester			
Pal-Glu(ONSu)-OBu ^t :	Nº-Hexadecanoyl-(L)-glutamic acid α-t-butyl-γ-2,5-		
	dioxopyrrolidin-1-yl diester.		
Ste-Glu(ONSu)-OBut :	N ^α -Octadecanoyl-(L)-glutamic acid α-t-butyl-γ-2,5-		
	dioxopyrrolidin-1-yl diester		
Lau-β-Ala-ONSu:	N^{β} -Dodecanoyl- β -alanine 2,5-dioxopyrrolidin-1-yl ester		
Pal-β-Ala-ONSu:	N ^β -Hexadecanoyl-β-alanine 2,5-dioxopyrrolidin-1-yl ester		
Lau-GABA-ONSu:	N^r -Dodecanoyl- γ -aminobutyric acid 2,5-dioxopyrrolidin-1-yl ester		
Myr-GABA-ONSu:	N^{γ} -Tetradecanoyl- γ -aminobutyric acid 2,5-dioxopyrrolidin-1-yl ester		
Pal-GABA-ONSu:	N^r -Hexadecanoyl- γ -aminobutyric acid 2,5-dioxopyrrolidin-1-yl ester		
Ste-GABA-ONSu:	N^{γ} -Octadecanoyl- γ -aminobutyric acid 2,5-dioxopyrrolidin-1-yl ester		
Pal-Isonip-ONSu:	N-Hexadecanoyl-piperidine-4-carboxylic acid 2,5-dioxopyrrolidin-1-		
yl ester			
Pal-Glu(OBu ^t)-ONSu:	N ^{α} -Hexadecanoyl-L-glutamic acid α -2,5-dioxopyrrolidin-1-yl ester		
γ-t-butyl ester			
HOOC-(CH ₂) ₆ -COONSu:	ω –Carboxyheptanoic acid 2,5-dioxopyrrolidin-1-yl ester.		
HOOC-(CH ₂) ₁₀ -COONSU	ω -Carboxyundecanoic acid 2,5-dioxopyrrolidin-1-yl ester.		
HOOC-(CH ₂) ₁₂ -COONSu:	ω-Carboxytridecanoic acid 2,5-dioxopyrrolidin-1-ył ester.		
HOOC-(CH ₂) ₁₄ -COONSu:	ω -Carboxypentadecanoic acid 2,5-dioxopyrrolidin-1-yl ester.		
HOOC-(CH ₂) ₁₆ -COONSU:	ω-Carboxyheptadecanoic acid 2,5-dioxopyrrolidin-1-yl ester.		
HOOC-(CH ₂) ₁₈ -COONSu:	ω-Carboxynonadecanoic acid 2,5-dioxopyrrolidin-1-yl ester.		
Analytical			
Plasma Desorption Mass Spectrometry			
Sample preparation:			

The sample is dissolved in 0.1 % TFA/EtOH (1:1) at a concentration of 1 μ g/ μ l. The sample solution (5-10 μ l) is placed on a nitrocellulose target (Bio-ion AB, Uppsala, Sweden)

and allowed to adsorb to the target surface for 2 minutes. The target is subsequently rinsed with $2x25 \ \mu$ I 0.1 % TFA and spin-dried. Finally, the nitrocellulose target is placed in a target carrousel and introduced into the mass spectrometer.

5 MS analysis:

PDMS analysis was carried out using a Bio-ion 20 time-of flight instrument (Bio-ion Nordic AB, Uppsala, Sweden). An acceleration voltage of 15 kV was applied and molecular ions formed by bombardment of the nitrocellulose surface with 252-Cf fission fragments were accelerated towards a stop detector. The resulting time-of-flight spectrum was calibrated into a true mass spectrum using the H⁺ and NO⁺ ions at m/z 1 and 30, respectively. Mass spectra were generally accumulated for $1.0x10^6$ fission events corresponding to 15-20 minutes. Resulting assigned masses all correspond to isotopically averaged molecular masses. The accuracy of mass assignment is generally better than 0.1 %.

15 MALDI-MS

MALDI-TOF MS analysis was carried out using a Voyager RP instrument (PerSeptive Biosystems Inc., Framingham, MA) equipped with delayed extraction and operated in linear mode. Alpha-cyano-4-hydroxy-cinnamic acid was used as matrix, and mass assignments were based on external calibration.

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Example 1

Synthesis of Arg^{26,34}, Lys³⁶ (N^{*}-(γ-glutamyl(N^a-hexadecanoyl))) GLP-1 (7-36)-OH.

To a mixture of Arg^{26,34}, Lys³⁶ GLP-1 (7-36)-OH (12.2 mg, 3.67 μ mol), EDPA (13.3 mg, 103 μ mol), NMP (1.71 ml) and water (855 μ l) was added a solution of Pal-Glu(ONSu)-OBu^t (5.94 mg, 11 μ mol), prepared as described in PCT application no. PCT/DK97/00340, in NMP (148 μ l). The reaction mixture was gently shaken for 5 min. at room temperature, and then allowed to stand for an additional 90 min. at room temperature. The reaction was quenched by the addition of a solution of glycine (6 mg, 81 μ mol) in water (0.6 ml). A 0.5 % aqueous solution of ammonium-acetate (38 ml) was added, and the resulting mixture eluted onto a Varian 5g C8 Mega Bond Elut[®], the immobilised compound washed with 5% aqueous acetonitril (20 ml), and finally liberated from the cartridge by elution with TFA (25 ml). The eluate was concentrated *in vacuo*, and the residue purified by column chromatography using a cyanopropyl column (Zorbax 300SB-CN) and a standard acetonitril/TFA system. The column was heated to 65°C and the acetonitril gradient was 0-100% in 60 minutes. The <u>title</u>

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<u>compound</u> (3.1 mg, 23 %) was isolated, and the product was analysed by PDMS. The m/z value for the protonated molecular ion was found to be 3695 +- 3. The resulting molecular weight is thus 3694 +- 3 amu (theoretical value 3694 amu).

5 Example 2

Synthesis of Arg^{26,34},Lys³⁶ (N^ε-(γ-glutamyl(N^α-octadecanoyl))) GLP-1 (7-36)-OH.

To a mixture of Arg^{26,34},Lys³⁶ GLP-1 (7-36)-OH (12.2 mg, 3.7 μ mol), EDPA (13.3 mg, 103 μ mol), NMP (1.71 ml) and water (855 μ l) was added a solution of Ste-Glu(ONSu)-OBu^t (6.25 mg, 11 μ mol), prepared as described in PCT application no. PCT/DK97/00340, in NMP (1 ml). The reaction mixture was gently shaken for 5 min. at room temperature, and then allowed to stand for an additional 90 min. at room temperature. The reaction was quenched by the addition of a solution of glycine (6 mg, 81 μ mol) in water (0.6 ml). A 0.5 % aqueous solution of ammonium acetate (54 ml) was added, and the resulting mixture eluted onto a Varian 5g C8 Mega Bond Elut[®], the immobilised compound washed with 5% aqueous acetonitril (20 ml), and finally liberated from the cartridge by elution with TFA (25 ml). The eluate was concentrated *in vacuo*, and the residue purified by column chromatography using a cyanopropyl column (Zorbax 300SB-CN) and a standard acetonitril/TFA system. The column was heated to 65°C and the acetonitril gradient was 0-100% in 60 minutes. The <u>title compound</u> (3.7 mg, 27 %) was isolated, and the product was analysed by PDMS. The m/z value for the protonated molecular ion was found to be 3723 +- 3. The resulting molecular weight is thus 3722 +- 3 amu (theoretical value 3722 amu).

Example 3

Synthesis of lithocholic acid 2,5-dioxopyrrolidin-1-yl ester.

To a solution of lithocholic acid (5.44 g, 14.3 mmol) in a mixture of anhydrous THF (120 ml) and anhydrous acetonitril (30 ml) was added N-hydroxysuccinimide (1.78 g, 15 mmol). The mixture was cooled to 10°C, a solution of DCC (3.44 g, 16.7 mmol) in anhydrous THF (30 ml) was added drop wise, and the resulting reaction mixture stirred for 16 h at room temperature. The reaction mixture was filtered and partitioned between dichlorometha-

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ne (450 ml) and 10% aqueous Na_2CO_3 (150 ml). The phases were separated, and the organic phase washed with 10% aqueous Na_2CO_3 (150 ml), water (2x150 ml), and dried (MgSO₄). The solvent was concentrated *in vacuo*. The residue was crystallised from a mixture of dichloromethane (30 ml) and n-heptane (30 ml). The precipitate was dried in a vacuum drving oven for 36 h to give the <u>title compound</u> (3.46 g, 51 %).

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Example 4

Synthesis of Lit-Glu(ONSu)-OBu^t.

A suspension of H-Glu(OH)-OBu^t (1.28 g, 6.33 mmol), DMF (88 ml) and EDPA (0.82 g, 6.33 mmol) and lithocholic acid 2,5-dioxopyrrolidin-1-yl ester, prepared as described in example 3, was stirred for 16 h at room temperature. The reaction mixture was concentrated in vacuo and the residue dissolved in ethyl acetate (40 ml). The resulting solution was washed with 5% aqueous citric acid (2x25 ml), brine (10 ml), and filtered). The solvent was concentrated in vacuo and the residue dissolved in DMF (12 ml). The resulting solution was added drop wise to a 10% aqueous solution of citric acid whereby the product precipitates. 10 The precipitate was collected and washed with iced water, and dried in vacuo. The crude product was recrystallised from a mixture of n-heptane (40 ml) and 2-propanol (17 ml). The precipitate was dried in a vacuum drying oven for 4 h to give the free acid intermediate. To a solution of the free acid intermediate in DMF (18 ml) was added hydroxysuccinimide

(0.45 g, 3.91 mmol), followed by a solution of DCC (0.73 g, 3.56 mmol) in dichloromethane (18 ml). The resulting mixture was stirred at ambient temperature for 18 h, and then filtered. The filtrate was concentrated in vacuo to a solid, and the residue was dissolved in dichloromethane (25 ml), and the filtration repeated, the solvent removed in vacuo to give a foam. The residue was dissolved in refluxing n-heptane (35 ml), and the product crystallised b addition of 2-propanol. The precipitate was collected, washed with cold n-heptane, dried at 20 35°C in vacuo to give the title compound (1.34 g, 57%).

Example 5

Synthesis of Arg³⁴,Lys²⁶ (N^ε-(γ-glutamyl(N^α-lithochoyl))) GLP-1 (7-37)-OH.

To a mixture of Arg³⁴,Lys²⁶ GLP-1 (7-37)-OH (41.1 mg, 12.2 µmol), EDPA (44 mg, 340 µmol), NMP (5.76 ml) and water (2.88 ml) was added a solution of Lit-Glu(ONSu)-OBut (24 mg, 37 μmol), prepared as described in example 4, in NMP (600 μl). The reaction mixture was gently shaken for 5 min. at room temperature, and then allowed to stand for an additional 75 min. at room temperature. The reaction was quenched by the addition of a solution

of glycine (20 mg, 268 µmol) in water (2 ml). A 0.5 % aqueous solution of ammonium ace-30 tate (128 ml) was added, and the resulting mixture divided into two equal portions, and each portion eluted onto a Varian 5g C8 Mega Bond Elut®, the immobilised compound washed with 5% aqueous acetonitril (2x25 ml), and finally liberated from the cartridge by elution with TFA (2x25 ml). The combined eluates were concentrated in vacuo, and the residue purified

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by column chromato-graphy using a cyanopropyl column (Zorbax 300SB-CN) and a standard acetonitril/TFA system. The column was heated to 65°C and the acetonitril gradient was 0-100% in 60 minutes. The <u>title compound</u> (5 mg, 11 %) was isolated, and the product was analysed by PDMS. The m/z value for the protonated molecular ion was found to be 3872 +- 3. The resulting molecular weight is thus 3871 +- 3 amu (theoretical value 3871 amu).

Example 6

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Synthesis of Arg²⁶,Lys³⁴ (N^ε-(γ-glutamyl(N^α-hexadecanoyl))) GLP-1 (7-37)-OH

To a mixture of Arg²⁶,Lys³⁴ GLP-1 (7-37)-OH (18 mg, 5.3 μmol), EDPA (19.3 mg, 149 μmol), NMP (2.52 ml) and water (1.26 ml) was added a solution of Pal-Glu(ONSu)-OBu⁴ (8.6 mg, 16 μmol) in NMP (215 μl). The reaction mixture was gently shaken for 5 min. at room temperature, and then allowed to stand for an additional 90 min. at room temperature. The reaction was quenched by the addition of a solution of glycine (8.8 mg, 117 μmol) in water (0.88 ml). A 0.5 % aqueous solution of ammonium acetate (50 ml) was added, and the resulting mixture eluted onto a Varian 5g C8 Mega Bond Elut[®], the immobilised compound washed with 5% aqueous acetonitril (25 ml), and finally liberated from the cartridge by elution with TFA (25 ml). The eluate was concentrated *in vacuo*, and the residue purified by column chromatography using a cyanopropyl column (Zorbax 300SB-CN) and a standard

20 acetonitril/TFA system. The column was heated to 65°C and the acetonitril gradient was 0-100% in 60 minutes. The <u>title compound</u> (6 mg, 30 %) was isolated, and the product was analysed by PDMS. The m/z value for the protonated molecular ion was found to be 3752 +-3. The resulting molecular weight is thus 3751 +- 3 amu (theoretical value 3751 amu).

25 Example 7

Synthesis of Gly⁸,Arg^{28,34},Lys³⁸ (N^s-(γ-glutamyl(N^α-hexadecanoyl))) GLP-1 (7-38)-OH.

To a mixture of Gly⁸,Arg^{26,34},Lys³⁸ GLP-1 (7-38)-OH (11.8 mg, 3.4 μmol), EDPA (12.1 mg, 94 μmol), NMP (1.65 ml) and water (0.83 ml) was added a solution of Pal-Glu(ONSu)-OBu^t (5.4 mg, 10 μmol) in NMP (135 μl). The reaction mixture was gently shaken for 5 min. at room temperature, and then allowed to stand for an additional 75 min. at room temperature. The reaction was quenched by the addition of a solution of glycine (5.5 mg, 73.7 μmol) in water (553 μl). A 0.5 % aqueous solution of ammonium acetate (36 ml) was added, and the resulting mixture eluted onto a Varian 5g C8 Mega Bond Elut[®], the immobilised compound washed with 5% aqueous acetonitril (25 ml), and finally liberated from the

cartridge by elution with TFA (25 ml). The eluate was concentrated in vacuo, and the residue purified by column chromatography using a cyanopropyl column (Zorbax 300SB-CN) and a standard acetonitril/TFA system. The column was heated to 65°C and the acetonitril gradient was 0-100% in 60 minutes. The title compound (5 mg, 38 %) was isolated, and the product was analysed by PDMS. The m/z value for the protonated molecular ion was found to be 3895 +- 3. The resulting molecular weight is thus 3894 +- 3 amu (theoretical value 3894 amu).

Example 8

Synthesis of Gly⁸, Glu³⁷, Arg^{26,34}, Lys³⁸ (N^s-(y-glutamyl(N^α-hexadecanoyl))) GLP-1 (7-38)-OH. 10 To a mixture of Gly⁸,Glu³⁷,Arg^{28,34},Lys³⁸ GLP-1 (7-38)-OH (9 mg, 2.48 μmol), EDPA (9 mg, 69.4 µmol), NMP (1.25 ml) and water (0.63 ml) was added a solution of Pal-Glu(ONSu)-OBut (4 mg, 7.4 µmol) in NMP (100 µl). The reaction mixture was gently shaken for 5 min. at room temperature, and then allowed to stand for an additional 105 min. at room temperature. The reaction was quenched by the addition of a solution of glycine (4.1 mg, 15 54.6 µmol) in water (410 µl). A 0.5 % aqueous solution of ammonium acetate (27 ml) was added, and the resulting mixture eluted onto a Varian 5g C8 Mega Bond Elut[®], the immobilised compound washed with 5% aqueous acetonitril (15 ml), and finally liberated from the cartridge by elution with TFA (15 ml). The eluate was concentrated in vacuo, and the residue purified by column chromatography using a cyanopropyl column (Zorbax 300SB-CN) and a 20 standard acetonitril/TFA system. The column was heated to 65°C and the acetonitril gradient was 0-100% in 60 minutes. The title compound (2.9 mg, 29 %) was isolated, and the product was analysed by PDMS. The m/z value for the protonated molecular ion was found to be 3967 +- 3. The resulting molecular weight is thus 3966 +- 3 amu (theoretical value 3967 25 amu).

Example 9

Synthesis of Gly⁸, Glu³⁷, Arg^{26,34}, Lys³⁸ (Ν^ε-(γ-glutamyl(Ν^α-octadecanoyl))) GLP-1 (7-38)-OH.

To a mixture of Gly⁸, Glu³⁷, Arg^{26,34}, Lys³⁸ GLP-1 (7-38)-OH (9 mg, 2.5 μmol), EDPA (9 mg, 69.4 µmol), NMP (1.25 ml) and water (0.63 ml) was added a solution of Ste-Glu(ONSu)-OBut (4.2 mg, 7.4 μmol in NMP (105 μl). The reaction mixture was gently shaken for 5 min. at room temperature, and then allowed to stand for an additional 105 min. at room temperature. The reaction was quenched by the addition of a solution of glycine (4.1 mg, 54.6 µmol) in water (409 µl). A 0.5 % aqueous solution of ammonium acetate (27 ml) was added, and

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the resulting mixture eluted onto a Varian 5g C8 Mega Bond Elut[®], the immobilised compound washed with 5% aqueous acetonitril (15 ml), and finally liberated from the cartridge by elution with TFA (15 ml). The eluate was concentrated *in vacuo*, and the residue purified by column chromatography using a cyanopropyl column (Zorbax 300SB-CN) and a standard acetonitril/TFA system. The column was heated to 65°C and the acetonitril gradient was 0-100% in 60 minutes. The <u>title compound</u> (3.2 mg, 32 %) was isolated, and the product was analysed by PDMS. The m/z value for the protonated molecular ion was found to be 3995 +-3. The resulting molecular weight is thus 3994 +- 3 amu (theoretical value 3995 amu).

10 Example 10

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Synthesis of Cap-Glu(ONSu)-OBu^t.

To a solution of octanoic acid (5 g, 34.7 mmol) and N-hydroxysuccinimide (4 g, 34.7 mmol) in anhydrous acetonitril (10 ml) was added a solution of DCC (7.15 g, 34.7 mmol) in anhydrous dichloromethane (15 ml), and the resulting reaction mixture stirred for 16 h at room temperature. The precipitated solid was filtered off and recrystallised from a mixture of n-heptane (40 ml) and 2-propanol (2 ml). The precipitate was dried in a vacuum drying oven for 16 h to give the intermediate Cap-ONSu. A suspension of the crude ester intermediate (3.9 g, 16.2 mmoi), (L)-H-Giu(OH)-OBu' (3.28 g, 16.2 mmoi), DMF (268 mi) and EDPA (2.1 g, 16.2 mmol) was stirred for 64 h at room temperature. The reaction mixture was concentrated in vacuo and the residue dissolved in ethyl acetate (50 ml). The resulting solution was washed with 5% aqueous citric acid (2x25 ml). The solvent was concentrated in vacuo and the residue dissolved in DMF (36 ml). The resulting solution was added drop wise to a 10% aqueous solution of citric acid (357 ml) and extracted with ethyl acetate (200 ml), and dried (MgSO₄). The solvent was concentrated in vacuo to give the crude glutamic acid intermediate. To a mixture of the crude glutamic acid intermediate, N-hydroxysuccinimide (1.85 g, 16.1 mmol) and DMF (25 ml) was added a solution of DCC (3.32 g, 16.1 mmol) in dichloromethane (15 ml). The resulting mixture was stirred at ambient temperature for 20 h. The reaction mixture was filtered and the solvent concentrated in vacuo. The residue was purified on a silica gel column (40- 63μ), eluted with a mixture of dichloromethane and acetonitril

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(1:1) to give the <u>title compound</u> (0.63 g, 6% over all).

Example 11

Synthesis of Glu³⁷, Arg^{26,34}, Lys³⁸ (N^ε-(γ-glutamyl(N^α-hexadecanoyl))) GLP-1 (7-38)-OH.

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To a mixture of Glu³⁷, Arg^{26,34},Lys³⁸ GLP-1 (7-38)-OH (17.6 mg, 4.9 μ mol), EDPA (17.6 mg, 136 μ mol), NMP (1.23 ml) and water (2.46 ml) was added a solution of Pal-Glu(ONSu)-OBu⁴ (7.9 mg, 14.6 μ mol) in NMP (197 μ). The reaction mixture was gently shaken for 5 min. at room temperature, and then allowed to stand for an additional 2 h at room temperature. The reaction was quenched by the addition of a solution of glycine (8 mg, 107 μ mol) in water (804 μ l). A 0.5 % aqueous solution of ammonium acetate (49 ml) was added, and the resulting mixture eluted onto a Varian 5g C8 Mega Bond Elut[®], the immobilised compound washed with 5% aqueous acetonitril (25 ml), and finally liberated from the cartridge by elution with TFA (25 ml). The eluate was concentrated *in vacuo*, and the residue purified by column chromatography using a cyanopropyl column (Zorbax 300SB-CN) and a standard acetonitril/TFA system. The column was heated to 65°C and the acetonitril gradient was 0-100% in 60 minutes. The <u>title compound</u> (5.1 mg, 26 %) was isolated, and the product was analysed by PDMS. The m/z value for the protonated molecular ion was found to be 3981 +- 3. The resulting molecular weight is thus 3980 +- 3 amu (theoretical value 3981 amu).

Example 12

Synthesis of Arg³⁴,Lys²⁶ (N^{*}-(γ-glutamyl(N^α-octadecanoyl))) GLP-1 (7-37)-OH.

To a mixture of Arg34 GLP-1 (7-37)-OH (41.1 mg, 12.2 µmol), EDPA (44 mg, 341 µmol), NMP (5.76 ml) and water (2.88 ml) was added a solution of Ste-Glu(ONSu)-OBu^t 20 (20.7 mg, 36.5 µmol in NMP (517 µl). The reaction mixture was gently shaken for 5 min. at room temperature, and then allowed to stand for an additional 2 h at room temperature. The reaction was guenched by the addition of a solution of glycine (20.1 mg, 268 µmol) in water (2.01 ml). A 0.5 % aqueous solution of ammonium-acetate (120 ml) was added, and the resulting mixture eluted onto a Varian 5g C8 Mega Bond Elut®, the immobilised compound 25 washed with 5% aqueous acetonitril (25 ml), and finally liberated from the cartridge by elution with TFA (25 ml). The eluate was concentrated in vacuo, and the residue purified by column chromatography using a cyanopropyl column (Zorbax 300SB-CN) and a standard acetonitril/TFA system. The column was heated to 65°C and the acetonitril gradient was 0-100% in 60 minutes. The title compound (15.4 mg, 34 %) was isolated, and the product was 30 analysed by PDMS. The m/z value for the protonated molecular ion was found to be 3781 +-3. The resulting molecular weight is thus 3780 +- 3 amu (theoretical value 3779 amu).

Example 13

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Synthesis of Arg³⁴, Lys²⁶(N⁴-decanoyl) GLP-1 (7-37)

To a mixture of Arg³⁴-GLP-1 (7-37)-OH (20 mg, 5.9 μ mol), EDPA (21.4 mg, 165 μ mol), NMP (2.8 ml) and water (1.4 ml) was added a solution of Cac-ONSu (4.8 mg, 17.7 μ mol) in NMP (119 μ). The reaction mixture was gently shaken for 5 min., and then allowed to stand for an additional 2h at room temperature. The reaction was quenched by the addition of a solution of glycine (9.8 mg, 130 μ mol) in water (98 μ). The resulting mixture was purified by column chromatography using a cyanopropyl column (Zorbax 300SB-CN) and a standard acetoni-tril/TFA system. The column was heated to 65°C and the acetonitril gradient was 0-100% in 60 minutes. The <u>title compound</u> (7.4 mg, 35%) was isolated, and the product was analysed by PDMS. The m/z value for the protonated molecular ion was found to be 3539.6 ± 3. The resulting molecular weight is thus 3538.6 ± 3 amu (theoretical value 3538 amu).

Example 14

15 Synthesis of Arg³⁴,Lys²⁶ (N^s-(hexadecanoyl)) GLP-1 (7-37)-OH.

To a mixture of Arg³⁴ GLP-1 (7-37)-OH (41.1 mg, 12.2 μ mol), EDPA (44 mg, 340 μ mol), NMP (2.88 ml) and water (2.88 ml) was added a solution of Pal-ONSu (12.9 mg, 36.5 μ mol) in NMP (3.3 ml). The reaction mixture was gently shaken for 5 min. at room temperature, and then allowed to stand for an additional 110 min. at room temperature. The reaction was quenched by the addition of a solution of glycine (20.1 mg, 268 μ mol) in water (201 μ l). The solvent was concentrated *in vacuo*, and the residue purified by column chromatography using a cyanopropyl column (Zorbax 300SB-CN) and a standard acetonitril/TFA system. The column was heated to 65°C and the acetonitril gradient was 0-100% in 60 minutes. The <u>title compound</u> (15 mg, 34 %) was isolated, and the product was analysed by PDMS.

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Example 15

Synthesis of Arg^{26,34},Lys²⁷ (N^c-(γ-glutamyl(N^c-hexadecanoyl))) GLP-1 (7-37)-OH

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mg, 94.9 μ mol), NMP (1.6 ml) and water (0.8 ml) was added a solution of Pal-Glu(ONSu)-OBu^t (5.5 mg, 10.2 μ mol) in NMP (137 μ). The reaction mixture was gently shaken for 5 min. at room temperature, and then allowed to stand for an additional 90 min. at room temperature. The reaction was quenched by the addition of a solution of glycine (5.6 mg, 74.6 μ mol) in water (560 μ l). A 0.5 % aqueous solution of ammonium acetate (34 ml) was added, and the resulting mixture eluted onto a Varian 5g C8 Mega Bond Elut[®], the immobilised compound

To a mixture of Arg^{26,34}, Lys²⁷ GLP-1 (7-37)-OH (11.6 mg, 3.4 µmol), EDPA (12.3

washed with 5% aqueous acetonitril (15 ml), and finally liberated from the cartridge by elution with TFA (25 ml). The solvent was concentrated *in vacuo*, and the residue purified by column chromatography using a cyanopropyl column (Zorbax 300SB-CN) and a standard acetonitril/TFA system. The column was heated to 65°C and the acetonitril gradient was 0-100% in 60 minutes. The <u>title compound</u> (2.1 mg, 16 %) was isolated, and the product was analysed by PDMS.

Example 16

Synthesis of Arg^{26,34},Lys²³ (N^ε-(γ-glutamyl(N^α-hexadecanoyl))) GLP-1 (7-37)-OH.

To a mixture of Arg^{26,34}, Lys²³ GLP-1 (7-37)-OH (11.6 mg, 3.4 μmol), EDPA (12.3 mg, 94.9 μmol), NMP (1.6 ml) and water (0.8 ml) was added a solution of Pal-Glu(ONSu)-OBu^t (5.5 mg, 10.2 μmol) in NMP (137 μl). The reaction mixture was gently shaken for 5 min. at room temperature, and then allowed to stand for an additional 90 min. at room temperature. The reaction was quenched by the addition of a solution of glycine (5.6 mg, 74.6 μmol) in water (560 μl). A 0.5 % aqueous solution of ammonium acetate (34 ml) was added, and the resulting mixture eluted onto a Varian 5g C8 Mega Bond Elut[®], the immobilised compound washed with 5% aqueous acetonitril (15 ml), and finally liberated from the cartridge by elution with TFA (25 ml). The solvent was concentrated *in vacuo*, and the residue purified by column chromatography using a cyanopropyl column (Zorbax 300SB-CN) and a standard acetonitril/TFA system. The column was heated to 65^oC and the acetonitril gradient was 0-100% in 60 minutes. The <u>title compound</u> (3.1 mg, 24 %) was isolated, and the product was analysed by PDMS.

Example 17

25 Synthesis of Arg^{26,34},Lys¹⁸ (Ν^ε-(γ-glutamyl(N^α-hexadecanoyl))) GLP-1 (7-37)-OH

To a mixture of Arg^{28,34}, Lys¹⁸ GLP-1 (7-37)-OH (11.7 mg, 3.4 μ mol), EDPA (12.2 mg, 94.6 μ mol), NMP (1.6 ml) and water (0.8 ml) was added a solution of Pal-Glu(ONSu)-OBu¹ (5.5 mg, 10.2 μ mol) in NMP (137 μ l). The reaction mixture was gently shaken for 5 min. at room temperature, and then allowed to stand for an additional 90 min. at room temperature. The reaction was quenched by the addition of a solution of glycine (5.6 mg, 74.6 μ mol) in water (560 μ l). A 0.5 % aqueous solution of ammonium acetate (34 ml) was added, and the resulting mixture eluted onto a Varian 5g C8 Mega Bond Elut[®], the immobilised compound washed with 5% aqueous acetonitril (25 ml), and finally liberated from the cartridge by elution on with TFA (25 ml). The solvent was concentrated *in vacuo*, and the residue purified by co-

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lumn chromatography using a cyanopropyl column (Zorbax 300SB-CN) and a standard acetonitril/TFA system. The column was heated to 65^oC and the acetonitril gradient was 0-100% in 60 minutes. The <u>title compound</u> (1.9 mg, 15 %) was isolated, and the product was analysed by PDMS.

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Example 18

Synthesis of Arg³⁴, Lys²⁶ (N^c-(octanoyl)) GLP-1 (7-37)-OH.

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To a mixture of Arg³⁴ GLP-1 (7-37)-OH (41.1 mg, 12.2 μ mol), EDPA (44 mg, 341 μ mol), NMP (5.76 ml) and water (2.88 ml) was added a solution of Cap-ONSu (8.8 mg, 36.5 μ mol, prepared as described in example 10, in NMP (106 μ l). The reaction mixture was gently shaken for 5 min. at room temperature, and then allowed to stand for an additional 115 min. at room temperature. The reaction was quenched by the addition of a solution of glycine (20 mg, 268 μ mol) in water (200 μ l). The solvent was concentrated *in vacuo*, and the residue purified by column chromatography using a cyanopropyl column (Zorbax 300SB-CN)

and a standard acetonitril/TFA system. The column was heated to 65^oC and the acetonitril gradient was 0-100% in 60 minutes. The <u>title compound</u> (18.8 mg, 44 %) was isolated, and the product was analysed by PDMS.

Example 19

20 Synthesis of Arg³⁴,Lys²⁶ (N^e-(dodecanoyl)) GLP-1 (7-37)-OH.

To a mixture of Arg³⁴ GLP-1 (7-37)-OH (41.1 mg, 12.2 μmol), EDPA (44 mg, 341 μmol), NMP (5.76 ml) and water (2.88 ml) was added a solution of Lau-ONSu (8.8 mg, 36.5 μmol, prepared in a similar manner as described for Cap-ONSu in example 10), in NMP (271 μl). The reaction mixture was gently shaken for 5 min. at room temperature, and then allowed to stand for an additional 100 min. at room temperature. The reaction was quenched by the addition of a solution of glycine (20.1 mg, 268 μmol) in water (200 μl). The solvent was concentrated *in vacuo*, and the residue purified by column chromatography using a cyanopropyl column (Zorbax 300SB-CN) and a standard acetonitril/TFA system. The column was heated to 65^oC and the acetonitril gradient was 0-100% in 60 minutes. The <u>title_com-</u>

30 pound (18 mg, 42 %) was isolated, and the product was analysed by PDMS.

Example 20

Synthesis of Pal-GABA-ONSu.

A mixture of Pal-ONSu (3 g, 8.48 mmol), γ -aminobutyric acid (0.87 g, 8.48 mmol) in DMF (200 ml) was stirred at room temperature for 60 h. The reaction mixture was filtered and the filtrate was added drop wise to 10% aqueous citric acid (500 ml). The precipitated N-acylated intermediate was collected and dried *in vacuo*. To a suspension of the dried intermediate in DMF (35 ml) was added a solution of DCC (1.45 g, 7.0 mmol) in dichloromethane (20 ml). The resulting mixture was stirred at room temperature for 20 h, and then filtered. The solvent was removed *in vacuo* to give a solid residue. The residue was recrystallised from a mixture of n-heptane (50 ml) and 2-propanol (2.5 ml) to give the <u>title compound</u> (2.5 g, 75 %).

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Example 21

Synthesis of Arg³⁴,Lys²⁶ (N^{*}-(y-aminobutyroy!(N^{*}-hexadecanoy!))) GLP-1 (7-37)-OH.

To a mixture of Arg³⁴, Lys²⁶ GLP-1 (7-37)-OH (41.1 mg, 12.2 μ mol), EDPA (44 mg, 341 μ mol), NMP (5.76 ml) and water (2.88 ml) was added a solution of Pal-GABA-ONSu (16 mg, 36.5 μ mol, prepared as described in example 20) in NMP (400 μ l). The reaction mixture was gently shaken for 5 min. at room temperature, and then allowed to stand for an additional 100 min. at room temperature. The reaction was quenched by the addition of a solution of glycine (20 mg, 268 μ mol) in water (200 μ l). The solvent was concentrated *in vacuo*, and the residue purified by column chromatography using a cyanopropyl column (Zorbax 300SB-

20 CN) and a standard acetonitril/TFA system. The column was heated to 65^oC and the acetonitril gradient was 0-100% in 60 minutes. The <u>title compound</u> (15.8 mg, 35 %) was isolated, and the product was analysed by PDMS.

Example 22

Synthesis of N^α-hexadecanoyl-D-glutamic acid α-t-butyl ester-γ-2,5-dioxopyrrolidin-1-yl ester. A mixture of Pal-ONSu (6.64 g, 18.8 mmol), D-glutamic acid α-tert-butyl ester (4.5 g, 18.8 mmol) and EDPA (4.85 g, 37.5 mmol) in DMF (538 ml) was stirred at room temperature for 60 h. The solvent was removed and the residue dissolved in ethyl acetate (175 ml). The resulting solution was extracted with 10% aqueous citric acid (2x125 ml), and the organic phase concentrated *in vacuo*. The residue was dissolved in DMF (60 ml), and the resulting mixture slowly added to 10% aqueous citric acid (500 ml). The precipitated compound was collected and dried *in vacuo*, to give the crude N-acylated glutamic acid intermediate. The crude intermediate was dissolved in DMF (35 ml), and a solution of DCC (3.5 g, 17 mmol) in dichloromethane (70 ml) was added. The resulting mixture was stirred at room

temperature for 20 h, and then filtered. The filtrate was concentrated *in vacuo*, and the solid residue recrystallised from a mixture of n-heptane (75 ml) and 2-propanol (5 ml), to give the <u>title compound</u> (5.2 g, 50 %)

5 Example 23

Synthesis of Arg³⁴,Lys²⁶ (N^s-(γ-D-glutamyl(N^e-hexadecanoyl))) GLP-1 (7-37)-OH.

To a mixture of Arg³⁴, Lys²⁶ GLP-1 (7-37)-OH (41.1 mg, 12.2 μ mol), EDPA (44 mg, 341 μ mol), NMP (5.76 ml) and water (2.88 ml) was added a solution of N^a-hexadecanoyl-D-glutamic acid α -t-butyl ester- γ -2,5-dioxopyrrolidin-1-yl ester (19.7 mg, 36.5 μ mol) in NMP (491 μ). The reaction mixture was gently shaken for 5 min. at room temperature, and then allowed to stand for an additional 95 min. at room temperature. The reaction was quenched by the addition of a solution of glycine (20 mg, 268 μ mol) in water (2 ml). A 0.5 % aqueous solution of ammonium acetate (120 ml) was added, and the resulting mixture divided into to equal portions, and each portion eluted onto a Varian 5g C8 Mega Bond Elut[®], the immobilised compound washed with 5% aqueous acetonitril (25 ml), and finally liberated from the cartridge by elution with TFA (25 ml). The combined eluates were concentrated *in vacuo*, and the residue purified by column chromatography using a cyanopropyl column (Zorbax 300SB-CN) and a standard acetonitril/TFA system. The column was heated to 65°C and the acetonitril gradient was 0-100% in 60 minutes. The <u>title compound</u> (10.5 mg, 23 %) was isolated, and the product was analysed by PDMS.

Example 24

Synthesis of Lys³⁴ (N^ε-(γ-glutamyl(N^α-tetradecanoyl))) GLP-1 (7-37).

To a mixture of GLP-1 (7-37)-OH (33.6 mg, 8.9 μmol), EDPA (32.4 mg, 250 μmol), NMP (2.1 ml) and water (2.1 ml) was added a solution of Myr-Glu(ONSu)-OBu^t (9.1 mg, 17.9 μmol), prepared as described in PCT application no. PCT/DK97/00340, in NMP (228 μl). The reaction mixture was gently shaken for 5 min., and then allowed to stand for an additional 80 min. at room temperature. The reaction was quenched by the addition of a solution of glycine

(14.8 mg, 197 μmol) in water (1.47 ml). A 0.5% aqueous solution of ammonium acetate (100 ml) was added, and the resulting mixture divided into two equal portions, and each portion eluted onto a Varian 5g C8 Mega Bond Elut[®], the immobilised compound washed with 5% aqueous acetonitril (2x25 ml), and finally liberated from the cartridge by elution with TFA (2x25 ml). The combined eluates were concentrated *in vacuo*, and the residue purified by column chromatography using a cyanopropyl column (Zorbax 300SB-CN) and a standard

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acetonitril/TFA system. The column was heated to 65°C and the acetonitril gradient was 0-100% in 60 minutes. The <u>title compound</u> (0.19 mg, 0.6%) was isolated, and the product was analysed by PDMS. The m/z value for the protonated molecular ion was found to be 3693 \pm 3. The resulting molecular weight is thus 3692 \pm 3 amu (theoretical value 3695 amu).

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Example 25

Synthesis of Arg^{26,34},Lys⁸(N^ε-(γ-glutamyl(N^α-hexadecanoyl))) GLP-1 (7-37).

To a mixture of Arg^{26,34}, Lys⁸-GLP-1 (7-37)-OH (10.3 mg, 3 μmol), EDPA (10.8 mg, 83 μmol), NMP (1.44 ml) and water (0.72 ml) was added a solution of Pal-Glu(ONSu)-OBu¹ (4.8 mg, 8.9 μmol), prepared as described in PCT application no. PCT/DK97/00340, in NMP (120 μl). The reaction mixture was gently shaken for 5 min., and then allowed to stand for an additional 70 min. at room temperature. The reaction was quenched by the addition of a solution of glycine (4.9 mg, 65.3 μmol) in water (490 μl). A 0.5% aqueous solution of ammonium ace-

15 Elut[®], the immobilised compound washed with 5% aqueous acetonitril (25 ml), and finally liberated from the cartridge by elution with TFA (25 ml). The eluate was concentrated *in vacuo*, and the residue purified by column chromatography using a cyanopropyl column (Zorbax 300SB-CN) and a standard acetonitril/TFA system. The column was heated to 65°C and the acetonitril gradient was 0-100% in 60 minutes. The <u>title compound</u> (3.2 mg, 28%)

tate (30 ml) was added, and the resulting mixture eluted onto a Varian 5g C8 Mega Bond

was isolated, and the product was analysed by PDMS. The m/z value for the protonated molecular ion was found to be 3836 ± 3 . The resulting molecular weight is thus 3835 ± 3 AMU (theoretical value 3836 AMU).

Example 26

25 Synthesis of Lau-Glu(ONSu)-OBu^t.

To a solution of H-Glu-OBu^t (3 g, 15 mmol) in DMF (344 ml) was added EDPA (2.58 ml, 15 mmol) and a solution of Lau-ONSu (4.5 g, 15 mmol), prepared in a similar manner as described for Cap-ONSu in example 10, in DMF (74 ml). The resulting mixture was stirred at ambient temperature for 18 h, and the solvent removed *in vacuo*. The oily residue was parti-

tioned between ethyl acetate (150 ml) and 5% aqueous citric acid (250 ml). The organic phase was concentrated *in vacuo*. The residue was dissolved in DMF (40 ml) and the solution added drop by drop to a 10% aqueous citric acid solution (350 ml). The precipitated product was collected, washed with water and dried *in vacuo* for 18 h to give the intermediate free acid. To solution of the free acid intermediate in DMF (25 ml) was added N-

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hydroxysuccinimide (1.7 g, 14.8 mmol) and a solution of N-(3-dimethylaminopropyl)-N'ethylcarbodiimide (2.58 g, 13.5 mmol) in dichloromethane (52 ml). The resulting mixture was stirred at room temperature for 18 h, and the solvents removed *in vacuo*. The oily residue was partitioned between dichloromethane (80 ml) and water (80 ml). The organic phase was washed with 5% aqueous citric acid, dried (MgSO₄), and concentrated *in vacuo* to a solid.

The solid residue was crystallised from a mixture of n-heptane (77 ml) and 2-propanol (50 ml), and finally recrystallised from n-heptane (76 ml) to give the <u>title compound</u> (2.96 g, 46%).

10 Example 27

Synthesis of Arg³⁴,Lys²⁶(N⁴-(γ -glutamyl(N^a-dodecanoyl))) GLP-1 (7-37). To a mixture of Arg³⁴-GLP-1 (7-37)-OH (20.6 mg, 6.1 µmol), EDPA (22 mg, 171 µmol), NMP (2.88 ml) and water (1.44 ml) was added a solution Lau-Glu(ONSu)-OBu¹ (10.2 mg, 21.2 µmol), prepared as described in example 26, in NMP (255 µl). The reaction mixture was gently shaken for 5 min., and then allowed to stand for an additional 75 min. at room temperature. The reaction was quenched by the addition of a solution of glycine (10 mg, 134 µmol) in water (100 µl). A 0.5% aqueous solution of ammonium acetate (61 ml) was added, and the resulting mixture eluted onto a Varian 5g C8 Mega Bond Elut[®], the immobilised compound washed with 5% aqueous acetonitril (25 ml), and finally liberated from the cartridge by elution with TFA (25 ml). The eluate was concentrated *in vacuo*, and the residue purified by column chromatography using a cyanopropyl column (Zorbax 300SB-CN) and a standard acetonitril/TFA system. The column was heated to 65°C and the acetonitril gradient was 0-100% in 60 minutes. The <u>title compound</u> (8.2 mg, 36%) was isolated, and the product was analysed by PDMS. The m/z value for the protonated molecular ion was found to be 3693 ± 3. The resulting molecular weight is 3692 ± 3 AMU (theoretical value 3693 AMU).

Example 28

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Synthesis of Lau-β-Ala-ONSu.

To a solution of Lau-ONSu (4.25 g, 14.3 mmol), prepared in a similar manner to in DMF
(400 ml) was added EDPA (1.84 g, 14.3 mmol) and β-alanine (1.27 g, 14.3 mmol). The resulting mixture was stirred at ambient temperature for 18 h. Water (250 ml) and DMF (50 ml) were added and the solution stirred for 1 h at room temperature. The solvents were removed *in vacuo* to give a solid. The solid residue was dissolved in DMF (50 ml) and the solution ad-

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ded drop by drop to a 5% aqueous solution of citric acid (200 ml). The precipitate collected, washed with water (50 ml) and dried *in vacuo* to give the <u>title compound</u> (3.6 g, 93%).

Example 29

5 Synthesis of Pal- β -Ala-ONSu.

To a solution of Pal-ONSu (4.25 g, 14.3 mmol) in DMF (400 ml) was added EDPA (1.84 g, 14.3 mmol) and β -alanine (1.27 g, 14.3 mmol). The resulting mixture was stirred at ambient temperature for 18 h. Water (250 ml) and DMF (50 ml) were added and the solution stirred for 1 h at room temperature. The solvents were removed *in vacuo* to give a solid. The solid residue was dissolved in DMF (50 ml) and the solution added drop by drop to a 5% aqueous solution of citric acid (200 ml). The precipitate collected, washed with water (50 ml) and dried *in vacuo* to give the <u>title compound</u> (3.6 g, 93%).

Example 30

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15 Synthesis of Myr-GABA-ONSu.

To a solution of Myr-ONSu (4 g, 12.3 mmol) in DMF (350 ml) was added EDPA (1.58 g, 12.3 mmol) and γ -aminobutyric acid (1.26 g, 12.3 mmol). The resulting mixture was stirred at ambient temperature for 18 h. Water (50 ml) was added and the solution stirred for 1 h at room temperature. The solvents were removed *in vacuo* to give a solid. The solid residue was dis-

- solved in DMF (75 ml) and the solution added drop by drop to a 5% aqueous solution of citric acid (250 ml). The precipitate collected, washed with water (100 ml) and dried *in vacuo* to give the free acid intermediate (3.65 g, 95%). To a solution of the free acid intermediate (3 g, 9.6 mmol), N-hydroxysuccinimide (1.65 g, 14.4 mmol) and N-(3-dimethylaminopropyl)-N'- ethylcarbodiimide hydrochloride (3.67 g, 19.1 mmol) in DMF (330 ml) was stirred for 18 h at
- room temperature, and the solvent removed *in vacuo* to give a solid. The solid residue was dissolved in dichloromethane (100 ml) and washed with brine (100 ml). The organic phase was dried (MgSO₄) and concentrated *in vacuo* to give a solid. The solid residue was recrystallised from n-heptane (75 ml) to give the <u>title compound</u> (2.8 g, 71%).

30 Example 31

Synthesis of Pal-β-Ala-ONSu.

To a solution of Pal-ONSu (0.9 g, 2.8 mmol) in DMF (100 ml) were added Nhydroxysuccinimide (0.35 g, 3 mmol) and N-(3-dimethylaminopropyl)-N'-ethylcarbodiimide (0.79 g, 4.1 mmol). The resulting mixture was stirred at ambient temperature for 40h, and the solvent removed *in vacuo*. The solid residue was partitioned between water (50 ml) and dichloromethane (50 ml). The organic phase was separated, dried (MgSO₄) and the solvent removed *in vacuo* to give the <u>title compound</u> (1.1 g, 94%).

5 Example 32

Synthesis of Arg³⁴,Lys²⁶(N^s-(β -alanyl(N^s-hexadecanoyl))) GLP-1 (7-37). To a mixture of Arg³⁴-GLP-1 (7-37)-OH (19.2 mg, 5.7 µmol), EDPA (20.5 mg, 159 µmol), NMP (2.7 ml) and water (1.35 ml) was added a solution Pal- β -Ala-ONSu (7.2 mg, 17 µmol), prepared as described in example 31, in NMP (181 µl). The reaction mixture was gently shaken for 5 min., and then allowed to stand for an additional 90 min. at room temperature. The reaction was quenched by the addition of a solution of glycine (9.3 mg, 125 µmol) in water (93 µl). The reaction mixture was purified by column chromatography using a cyanopropyl column (Zorbax 300SB-CN) and a standard acetonitril/TFA system. The column was heated to 65°C and the acetonitril gradient was 0-100% in 60 minutes. The <u>title compound</u> (11.6 mg, 55%) was isolated, and the product was analysed by PDMS. The m/z value for the protona-

ted molecular ion was found to be 3694 \pm 3. The resulting molecular weight is thus 3693 \pm 3 AMU (theoretical value 3693 AMU).

Example 33

20 Synthesis of Pal-Glu(OBu^t)-ONSu.

To a solution of H-Glu(OH)-OBu⁴ (2.7 g, 11.3 mmol) and Pal-ONSu (3.98 g, 11.3 mmol) in DMF (300 ml) was added EDPA (3.2 g, 24.8 mmol). The resulting mixture was stirred at ambient temperature for 18h, and the solvent concentrated *in vacuo* to give an oil. The oily residue was dissolved in DMF (60 ml) and the solution added drop by drop to a 10% aqueous solution of citric acid (300 ml) whereby a precipitate was formed. The precipitate was collected, washed with cold water (25 ml), and dried *in vacuo* to give free acid intermediate (4.44 g, 89%). The free acid intermediate (4 g, 9.1 mmol) was dissolved in DMF (50 ml) and N-hydroxysuccinimide (1.15 g, 10 mmol) and N-(3-dimethylaminopropyl)-N'-ethylcarbodiimide hydrochloride (2.6 g, 13.6 mmol) were added. The resulting mixture was stirred at room temperature for 60h, the solvent concentrated *in vacuo* to give the crude <u>title compound</u> (8.2

g)

Example 34

Synthesis of Arg³⁴, Lys²⁶(N^e-(α -glutamyl(N^e-hexadecanoyl))) GLP-1 (7-37).

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To a mixture of Arg³⁴-GLP-1 (7-37)-OH (25.6 mg, 7.6 μ mol), EDPA (27.4 mg, 212 μ mol), NMP (3.5 ml) and water (1.75 ml) was added a solution of Pal-Glu(OBu^t)-ONSu (12.2 mg, 22.7 μ mol), prepared as described in example 33, in NMP (305 μ). The reaction mixture was gently shaken for 5 min., and then allowed to stand for an additional 100 min. at room tem-

- 5 perature. The reaction was quenched by the addition of a solution of glycine (12.5 mg, 168 μmol) in water (125 μl). A 0.5% aqueous solution of ammonium acetate (72.5 ml) was added, and the resulting mixture eluted onto a Varian 5g C8 Mega Bond Elut[®], the immobilised compound washed with 5% aqueous acetonitril (25 ml), and finally liberated from the cartridge by elution with TFA (30 ml). The eluate was concentrated *in vacuo*, and the residue
- purified by column chromatography using a cyanopropyl column (Zorbax 300SB-CN) and a standard acetonitril/TFA system. The column was heated to 65°C and the acetonitril gradient was 0-100% in 60 minutes. The <u>title compound</u> (6.1 mg, 22%) was isolated, and the product was analysed by PDMS. The m/z value for the protonated molecular ion was found to be 3751 ± 3 . The resulting molecular weight is thus 3750 ± 3 AMU (theoretical value 3751

15 AMU).

Example 35

Synthesis of Ste-GABA-ONSu.

To a solution of Ste-ONSu (3 g, 7.9 mmol) in DMF (270 ml) was added EDPA (1 g, 7.9
mmol) and a solution of γ-aminobutyric acid (0.81 g, 7.9 mmol) in water (40 ml). The resulting suspension was stirred at ambient temperature for 18 h, and then concentrated *in vacuo* to a final volume of 50 ml. The resulting suspension was added to a 5% aqueous solution of citric acid (500 ml) whereby a precipitate is formed. The precipitate was collected and washed with water (50 ml), and dried *in vacuo* for 4h to give the free acid intermediate (2.8 g, 97%). To a mixture of the free acid intermediate (2.6 g, 7 mmol), N-hydroxysuccinimide

- (1.21 g, 10.5 mmol) and N-(3-dimethylaminopropyl)-N'-ethylcarbodiimide hydrochloride (2.69 g, 14 mmol) in NMP (300 ml) was stirred for 70 h, and the solvent removed *in vacuo* to give a solid. The solid residue was dissolved in dichloromethane (100 ml) and washed with brine (2x100 ml). The organic phase was dried (MgSO₄) and concentrated *in vacuo* to give a solid.
- 30 The solid residue was recrystallised from n-heptane (75 ml) to give the <u>title compound</u> (2.2 g, 67%).

Example 36

Synthesis of Pal-Isonip-ONSu.

To a suspension of 1-hexadecanoylbenzotriazole (3 g, 8.4 mmol), prepared as described in the literature (Kreutzberger; van der Goot, Arch.Pharm., 307, 1974), in DMF (350 ml) were added EDPA (1.08 g, 8.4 mmol) and a solution of piperidine-4-carboxylic acid in water (20 ml). The resulting suspension was stirred at room temperature for 12d, and then concentrated *in vacuo* to an oil. The oily residue was added drop by drop to a 5% aqueous solution of citric acid (300 ml) whereby a precipitate was formed. The precipitate was collected and washed with water (50 ml), dried *in vacuo* for 2 h to give the free acid intermediate (3 g, 97%). To a solution of the free acid intermediate (2.8 g, 7.6 mmol), N-hydroxysuccinimide (1.31 g, 11.4 mmol) in DMF (250 ml) was added N-(3-dimethylaminopropyl)-N'-

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ethylcarbodiimide hydrochloride (2.92 g, 15.2 mmol). The resulting mixture was stirred at ambient temperature for 18h, and the solvent removed *in vacuo* to give an oil. The oily residue was dissolved in dichloromethane (100 ml), washed with brine (50 ml), dried (MgSO₄) and concentrated *in vacuo* to give the crude <u>title compound (4.1 g, quant.)</u>.

15 Example 37

Synthesis of Arg³⁴,Lys²⁶(N^t-(piperidinyl-4-carbonyl(N-hexadecanoyl))) GLP-1 (7-37). To a mixture of Arg³⁴-GLP-1 (7-37)-OH (25 mg, 7.4 µmol), EDPA (26.7 mg, 207 µmol), NMP (3.5 ml) and water (1.75 ml) was added a solution Pal-Isonip-ONSu (13.7 mg, 30 µmol), prepared as described in example 36 in NMP (343 µl). The reaction mixture was gently shaken for 5 min., and then allowed to stand for an additional 90 min. at room temperature. The reaction was quenched by the addition of a solution of glycine (12.2 mg, 163 µmol) in water (122 µl). The reaction mixture was purified by column chromatography using a cyanopropyl column (Zorbax 300SB-CN) and a standard acetonitril/TFA system. The column was heated to 65°C and the acetonitril gradient was 0-100% in 60 minutes. The <u>title compound</u> (12 mg, 44%) was isolated, and the product was analysed by PDMS. The m/z value for the protona-

ted molecular ion was found to be 3734 \pm 3. The resulting molecular weight is thus 3733 \pm 3 AMU (theoretical value 3733 AMU).

Example 38

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Synthesis of Arg³⁴,Lys²⁶(N^ε-(γ-glutamyl(N^α-decanoyl))) GLP-1 (7-37)

To a mixture of Arg^{34} -GLP-1 (7-37)-OH (25 mg, 7.4 µmol), EDPA (26.7 mg, 207 µmol), NMP (3.5 ml) and water (1.75 ml) was added a solution of Cac-Glu(ONSu)-OBu^t (10 mg, 22.1 µmol) in NMP (252 µl). The reaction mixture was gently shaken for 5 min., and then allowed to stand for an additional 140 min. at room temperature. The reaction was quenched by the

addition of a solution of glycine (12.2 mg, 162 μ mol) in water (122 μ). A 0.5% aqueous solution of ammonium acetate (73 ml) was added, and the resulting mixture eluted onto a Varian 5g C8 Mega Bond Elut[®], the immobilised compound washed with 5% aqueous acetonitril (25 ml), and finally liberated from the cartridge by elution with TFA (25 ml). The eluate was con-

centrated *in vacuo*, and the residue purified by column chromatography using a cyanopropyl column (Zorbax 300SB-CN) and a standard acetonitril/TFA system. The column was heated to 65°C and the acetonitril gradient was 0-100% in 60 minutes. The <u>title compound</u> (12.2 mg, 45%) was isolated, and the product was analysed by PDMS. The m/z value for the protonated molecular ion was found to be 3669.7 ± 3. The resulting molecular weight is thus
3668.7 ± 3 amu (theoretical value 3667 amu).

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BIOLOGICAL FINDINGS

Protraction of GLP-1 derivatives after s.c. administration

The protraction of a number GLP-1 derivatives of the invention was determined by monitoring the concentration thereof in plasma after sc administration to healthy pigs, using the method described below. For comparison also the concentration in plasma of GLP-1(7-37) after sc. administration was followed. The protraction of other GLP-1 derivatives of the invention can be determined in the same way.

Pigs (50% Duroc, 25% Yorkshire, 25% Danish Landrace, app 40 kg) were fasted from the beginning of the experiment. To each pig 0.5 nmol of test compound per kg body weight was administered in a 50 µM isotonic solution (5 mM phosphate, pH 7.4, 0.02% Tween[®]-20 (Merck), 45 mg/ml mannitol (pyrogen free, Novo Nordisk). Blood samples were drawn from a catheter in vena jugularis at the hours indicated in Table 1. 5 ml of the blood samples were poured into chilled glasses containing 175 µl of the following solution: 0.18 M EDTA, 1500 KIE/ml aprotinin (Novo Nordisk) and 3% bacitracin (Sigma), pH 7.4. Within 30 min, the samples were centrifuged for 10 min at 5-6000*g. Temperature was kept at 4°C. The supernatant was pipetted into different glasses and kept at minus 20°C until use.

The plasma concentrations of the peptides were determined by RIA using a monoclonal antibody specific for the N-terminal region of GLP-1(7-37). The cross reactivities were less than 1% with GLP-1(1-37) and GLP-1(8-36) amide and < 0.1% with GLP-1(9-37),

GLP-1(10-36) amide and GLP-1(11-36) amide. The entire procedure was carried out at 4°C.

The assay was carried out as follows: 100 µl plasma was mixed with 271 µl 96% ethanol, mixed using a vortex mixer and centrifuged at 2600*g for 30 min. The supernatant was decanted into Minisorp tubes and evaporated completely (Savant Speedvac AS290). The evaporation residue was reconstituted in the assay buffer consisting of 80 mM NaH₂PO₄/Na₂HPO₄, 0.1 % HSA (Orpha 20/21, Behring), 10 mM EDTA, 0.6 mM thiomersal (Sigma), pH 7.5. Samples were reconstituted in volumes suitable for their expected concentrations, and were allowed to reconstitute for 30 min. To 300 µl sample, 100 µl antibody solution in dilution buffer containing 40 mM NaH₂PO₄/Na₂HPO₄, 0.1 % HSA, 0.6 mM thiomersal, pH 7.5, was added. A non-specific sample was prepared by mixing 300 µl buffer with 100 µl dilution buffer. Individual standards were prepared from freeze dried stocks, dissolved in 300 µl assay buffer. All samples were pre-incubated in Minisorp tubes with antibody as described above for 72 h. 200 µl tracer in dilution buffer containing 6-7000 CPM was added. samples were mixed and incubated for 48 h. 1.5 ml of a suspension of 200 ml per litre of heparin-stabilised bovine plasma and 18 g per litre of activated carbon (Merck) in 40 mM NaH₂PO₄/Na₂HPO₄, 0.6 mM thiomersal, pH 7.5, was added to each tube. Before use, the suspension was mixed and allowed to stand for 2 h at 4°C. All samples were incubated for 1 h at 4°C and then centrifuged at 3400*g for 25 min. Immediately after the centrifugation, the supernatant was decanted and counted in a y-counter. The concentration in the samples was calculated from individual standard curves.

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The findings show that the GLP-1 derivatives of the invention have a protracted profile of action relative to GLP-1(7-37) and are much more persistent in plasma than GLP-1(7-37). The time at which the peak concentration in plasma is achieved varies within wide limits, depending on the particular GLP-1 derivative selected.

25 Stimulation of cAMP formation in a cell line expressing the cloned human GLP-1 receptor

In order to demonstrate efficacy of the GLP-1 derivatives, their ability to stimulate formation of cAMP in a cell line expressing the cloned human GLP-1 receptor was tested. An EC_{50} was calculated from the dose-response curve.

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Baby hamster kidney (BHK) cells expressing the human pancreatic GLP-1 receptor were used (Knudsen and Pridal, 1996, Eur. J. Pharm. 318, 429-435). Plasma membranes were prepared (Adelhorst *et al*, 1994, J. Biol. Chem. 269, 6275) by homogenisation in buffer (10 mmol/l Tris-HCl and 30 mmol/l NaCl pH 7.4, containing, in addition, 1 mmol/l dithiothreitol, 5 mg/l leupeptin (Sigma, St. Louis, MO, USA), 5 mg/l pepstatin (Sigma, St. Louis, MO, USA),

100 mg/l bacitracin (Sigma, St. Louis, MO, USA), and 16 mg/l aprotinin (Novo Nordisk A/S, Bagsvaerd, Denmark)). The homogenate was centrifuged on top of a layer of 41 w/v% sucrose. The white band between the two layers was diluted in buffer and centrifuged. Plasma membranes were stored at -80°C until used.

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The assay was carried out in 96-well microtiter plates in a total volume of 140 μ l. The buffer used was 50 mmol/l Tris-HCl, pH 7.4 with the addition of 1 mmol/l EGTA, 1.5 mmol/l MgSO₄, 1.7 mmol/l ATP, 20 mM GTP, 2 mmol/l 3-isobutyl-1-methylxanthine, 0.01 % Tween-20 and 0.1 % human serum albumin (Reinst, Behringwerke AG, Marburg, Germany). Compounds to be tested for agonist activity were dissolved and diluted in buffer, added to the membrane preparation and the mixture was incubated for 2 h at 37°C. The reaction was stopped by the addition of 25 μ l of 0.05 mol/l HCl. Samples were diluted 10 fold before analysis for cAMP by a scintillation proximity assay (RPA 538, Amersham, UK).

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CLAIMS

1.

A derivative of GLP-1 analog of formula I:

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9 10 11 12 13 14 15 16 17 7 8 His-Xaa-Xaa-Gly-Xaa-Phe-Thr-Xaa-Asp-Xaa-Xaa-

18 19 20 21 22 23 24 25 26 27 28 Xaa-Xaa-Xaa-Xaa-Xaa-Xaa-Xaa-Xaa-Xaa-Phe-

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29 30 31 32 33 34 35 36 37 38 Ile-Xaa-Xaa-Xaa-Xaa-Xaa-Xaa-Xaa-Xaa

39 40 41 42 43 44 45 Xaa-Xaa-Xaa-Xaa-Xaa-Xaa

wherein

	Xaa at position 8 is Ala, Gly, Ser, Thr, Leu, Ile, Val, Glu, Asp, or Lys,
	Xaa at position 9 is Glu, Asp, or Lys,
20	Xaa at position 11 is Thr, Ala, Gly, Ser, Leu, Ile, Val, Glu, Asp, or Lys,
	Xaa at position 14 is Ser, Ala, Gly, Thr, Leu, Ile, Val, Glu, Asp, or Lys,
	Xaa at position 16 is Val, Ala, Gly, Ser, Thr, Leu, Ile, Tyr, Glu, Asp, or Lys,
	Xaa at position 17 is Ser, Ala, Gly, Thr, Leu, Ile, Val, Glu, Asp, or Lys,
	Xaa at position 18 is Ser, Ala, Gly, Thr, Leu, Ile, Val, Glu, Asp, or Lys,
25	Xaa at position 19 is Tyr, Phe, Trp, Glu, Asp, or Lys,
	Xaa at position 20 is Leu, Ala, Gly, Ser, Thr, Leu, Ile, Val, Glu, Asp, or Lys,
	Xaa at position 21 is Glu, Asp, or Lys,
	Xaa at position 22 is Gly, Ala, Ser, Thr, Leu, Ile, Val, Glu, Asp, or Lys,
	Xaa at position 23 is Gln, Asn, Arg, Glu, Asp, or Lys,
30	Xaa at position 24 is Ala, Gly, Ser, Thr, Leu, Ile, Val, Arg, Glu, Asp, or Lys,
	Xaa at position 25 is Ala, Gly, Ser, Thr, Leu, Ile, Val, Glu, Asp, or Lys,
	Xaa at position 26 is Lys, Arg, Gln, Glu, Asp, or His,
	Xaa at position 27 is Glu, Asp, or Lys,
	Xaa at position 30 is Ala, Gly, Ser, Thr, Leu, Ile, Val, Glu, Asp, or Lys,

Xaa at position 31 is Trp, Phe, Tyr, Glu, Asp, or Lys,

Xaa at position 32 is Leu, Gly, Ala, Ser, Thr, Ile, Val, Glu, Asp, or Lys,

Xaa at position 33 is Val, Gly, Ala, Ser, Thr, Leu, Ile, Glu, Asp, or Lys,

Xaa at position 34 is Lys, Arg, Glu, Asp, or His,

Xaa at position 35 is Gly, Ala, Ser, Thr, Leu, Ile, Val, Glu, Asp, or Lys,

Xaa at position 36 is Arg, Lys, Glu, Asp, or His,

Xaa at position 37 is Gly, Ala, Ser, Thr, Leu, Ile, Val, Glu, Asp, or Lys, or is deleted,

Xaa at position 38 is Arg, Lys, Glu, Asp, or His, or is deleted,

Xaa at position 39 is Arg, Lys, Glu, Asp, or His, or is deleted,

Xaa at position 40 is Asp, Glu, or Lys, or is deleted,

Xaa at position 41 is Phe, Trp, Tyr, Glu, Asp, or Lys, or is deleted,

Xaa at position 42 is Pro, Lys, Glu, or Asp, or is deleted,

Xaa at position 43 is Glu, Asp, or Lys, or is deleted,

Xaa at position 44 is Glu, Asp, or Lys, or is deleted, and

Xaa at position 45 is Val, Glu, Asp, or Lys, or is deleted, or

(a) a C-1-6-ester thereof, (b) amide, C-1-6-alkylamide, or C-1-6-dialkylamide thereof and/or (c) a pharmaceutically acceptable salt thereof,

provided that

A. when the amino acid at position 37, 38, 39, 40, 41, 42, 43 or 44 is deleted, then each amino acid downstream of the amino acid is also deleted,

B. the derivative of the GLP-1 analog contains only one or two Lys,

- C. the ε -amino group of one or both Lys is substituted with a lipophilic substituent optionally via a spacer,
- D. the total number of different amino acids between the derivative of the GLP-1

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analog and the corresponding native form of GLP-1 does not exceed six,

E. the derivative of GLP-1 analog of formula I is not selected from:

Lys²⁶(N^e-tetradecanoyl)-GLP-1(7-37),

Lys³⁴(N^{*}-tetradecanoyl)-GLP-1(7-37),

Lys^{26,34}-bis(N^{*}-tetradecanoyl)-GLP-1(7-37),

30 Lys²⁶(N^{*}-tetradecanoyl)Arg³⁴-GLP-1(7-37),

Glv⁸Arg^{26,34}Lvs³⁶(N^s-tetradecanoyl)-GLP-1(7-37),

Arg^{28,34}Lys³⁶ (N^e-tetradecanoyl)-GLP-1(7-37)-OH,

Lys^{26,34}bis(N^{*}-(w-carboxynonadecanoyl))-GLP-1(7-37)-OH,

Arg^{26,34}Lys³⁶(N^e-(ω-carboxynonadecanoyl))-GLP-1(7-36)-OH,

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Arg^{26,34}Lys³⁸(N^{*}-(γ-glutamyl(N[«]-tetradecanoyl)))-GLP-1(7-38)-OH, Arg^{26,34}Lys³⁸(N^ε-(ω-carboxypentadecanoyl))-GLP-1(7-38)-OH, Arg^{26,34}Lys³⁸(N^ε-(γ-glutamyl(N^ε-hexadecanoyl)))-GLP-1(7-38)-OH, Arg18,23,26,30,34 Lys38 (N*-hexadecanoyl)-GLP-1(7-38)-OH, 30 Arg^{26,34}Lys³⁸(N^e-(ω-carboxytridecanoyl))-GLP-1(7-38)-OH, Arg³⁴Lys²⁶(N⁴-(y-glutamyl(N^e-tetradecanoyl)))-GLP-1(7-37)-OH, Arg^{25,34}Lys³⁸(N^s-(γ-glutamyI(N^a-octadecanoyI)))-GLP-1(7-38)-OH,

Glu^{22,23,30}Arg^{26,34}Lys³⁸(N^{*}-(γ-glutamyl(N^a-tetradecanoyl)))-GLP-1(7-38)-OH, Glu^{23,26}Arg³⁴Lys³⁸(N^ε-(γ-glutamyl(N^α-tetradecanoyl)))-GLP-1(7-38)-OH, Lys^{28,34}-bis(N^s-(ω-carboxytridecanoyl))-GLP-1(7-37)-OH, Lys^{28,34}-bis(N^c-(γ-glutamyl(N^c-tetradecanoyl)))-GLP-1(7-37)-OH, Arg^{26,34}Lys³⁸(N^ε-(ω-carboxypentadecanoyl))-GLP-1(7-38)-OH, Lys^{28,34}-bis(N^{*}-(γ-glutamyl(N^α-hexadecanoyl)))-GLP-1(7-37)-OH, 25

Arg³⁴Lys²⁶(N^ε-(γ-glutamyl(N^e-hexadecanoyl)))-GLP-1(7-37)-OH,

- Arg^{28,34}Lys³⁶ (N^{*}-(ω-carboxyheptanoyl))-GLP-1(7-36)-OH, 15 Lys^{26,34}bis(N^ε-(ω-carboxyheptanoyl))-GLP-1(7-37)-OH, Arg³⁴Lys²⁶ (N^e-(ω–carboxypentadecanoyl))-GLP-1(7-37)-OH, Arg^{26,34}Lys³⁶ (N⁴-(ω-carboxyheptanoyl))-GLP-1(7-36)-OH, Arg³⁴Lys²⁶(N^e-lithocholyl)-GLP-1(7-37)-OH,
- Lys^{26,34}bis(N^{*}-(w-carboxyundecanoyl))-GLP-1(7-37)-OH, Arg^{26,34}Lys³⁶ (N^ε-(ω-carboxyundecanoyl))-GLP-1(7-36)-OH, 10 Arg³⁴Lys²⁶ (N^s-(ω-carboxyundecanoy!))-GLP-1(7-37)-OH, Arg³⁴Lys²⁶ (N^{*}-(ω -carboxyheptanoyl))-GLP-1(7-37)-OH, Arg^{26,34}Lys³⁸(N^ε-(ω-carboxyheptanoyl))-GLP-1(7-38)-OH, Arg^{28,34}Lys³⁶ (N^ε-(ω-carboxyheptanoyl))-GLP-1(7-37)-OH,
- Arg^{26,34}Lys³⁸(N^{*}-(ω-carboxynonadecanoyl))-GLP-1(7-38)-OH, Arg³⁴Lys²⁶ (N^s-(ω-carboxynonadecanoyl))-GLP-1(7-37)-OH, Arg³⁴Lys²⁶ (Nⁱ-(ω-carboxyheptadecanoyl))-GLP-1(7-37)-OH, Arg^{26,34}Lys³⁶ (N^ε-(ω-carboxyheptadecanoyl))-GLP-1(7-37)-OH, Arg^{28,34}Lys³⁸(N^s-(ω -carboxyheptadecanoyl))-GLP-1(7-38)-OH, 5 Arg^{26,34}Lys³⁶ (N^s-(ω-carboxyheptadecanoyi))-GLP-1(7-36)-OH, Arg^{28,34}Lys³⁶ (N^ε-(ω-carboxyundecanoyl))-GLP-1(7-37)-OH, Arg^{26,34}Lys³⁸(N^s-(ω-carboxyundecanoyl))-GLP-1(7-38)-OH,

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Lys²⁶(N^s-tetradecanoyl)-GLP-1(7-37); Lys³⁴(N⁴-tetradecanoyl)-GLP-1(7-37); Lys^{26,34}-bis(N^e-tetradecanoyl)-GLP-1(7-37); Gly⁸Lys²⁶(N^e-tetradecanoyl)-GLP-1(7-37); Gly⁸Lys³⁴(N^s-tetradecanoyl)-GLP-1(7-37); Glv⁸Lvs^{26,34}-bis(N^e-tetradecanoyl)-GLP-1(7-37); Arg²⁶Lys³⁴(N^e-tetradecanoyl)-GLP-1(7-37); Lvs²⁶(N*-tetradecanoyl)-GLP-1(7-38); Lys34(Nr-tetradecanoyl)-GLP-1(7-38); Lys^{26,34}-bis(N*-tetradecanoyi)-GLP-1(7-38); Glv⁸Lys²⁶(N⁴-tetradecanoyl)-GLP-1(7-38); Glv⁸Lys³⁴(N⁴-tetradecanoyl)-GLP-1(7-38); Glv⁸Lvs^{26,34}-bis(N^c-tetradecanoyl)-GLP-1(7-38); Arg²⁶Lys³⁴(N^e-tetradecanoyl)-GLP-1(7-38); Lys²⁶(N⁴-tetradecanoyl)-GLP-1(7-39); Lys³⁴(N*-tetradecanoyl)-GLP-1(7-39); Lvs^{26,34}-bis(N^e-tetradecanovI)-GLP-1(7-39); Gly⁸Lys²⁶(N⁴-tetradecanoyl)-GLP-1(7-39); Gly⁸Lys³⁴(N^e-tetradecanoyl)-GLP-1(7-39); Glv⁸Lvs^{26,34}-bis(N^s-tetradecanoy!)-GLP-1(7-39); Arg²⁶Lys³⁴(N^e-tetradecanoyl)-GLP-1(7-39); Lys²⁶(N^{*}-tetradecanoyl)-GLP-1(7-40); Lys34(N*-tetradecanoyl)-GLP-1(7-40); Lys^{26,34}-bis(N^s-tetradecanoyl)-GLP-1(7-40); Giv⁸Lys²⁶(N⁴-tetradecanoyl)-GLP-1(7-40); Gly8Lys34(Nf-tetradecanoyl)-GLP-1(7-40); Gly⁸Lys^{26,34}-bis(N^{*}-tetradecanoyl)-GLP-1(7-40); Arg²⁶Lys³⁴(N^s-tetradecanoyl)-GLP-1(7-40); Lys²⁶(N*-tetradecanoyl)-GLP-1(7-36); Lys34(N'-tetradecanoyi)-GLP-1(7-36); Lys^{26,34}-bis(N*-tetradecanoyl)-GLP-1(7-36); Glv⁸Lys²⁶(N⁴-tetradecanoyl)-GLP-1(7-36);

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Glv⁸Lvs³⁴(N⁴-tetradecanoyl)-GLP-1(7-36); Gly⁸Lys^{26,34}-bis(N^{*}-tetradecanoyl)-GLP-1(7-36); Arg²⁶Lys³⁴(N^{*}-tetradecanoy!)-GLP-1(7-36); Lvs²⁶(N^{*}-tetradecanoyl)-GLP-1(7-35); Lys³⁴(N^{*}-tetradecanoyl)-GLP-1(7-35); Lys^{26,34}-bis(N^{*}-tetradecanoyl)-GLP-1(7-35); Gly⁸Lys²⁶(N*-tetradecanoyl)-GLP-1(7-35); Glv⁸Lvs³⁴(N^t-tetradecanoyi)-GLP-1(7-35); Glv⁸Lys^{26,34}-bis(N^s-tetradecanoyl)-GLP-1(7-35); Arg²⁶Lys³⁴(N^{*}-tetradecanoyi)-GLP-1(7-35); Lys²⁶(N^s-tetradecanoy!)-GLP-1(7-36)amide; Lys³⁴(N^s-tetradecanoyl)-GLP-1(7-36)amide; Lvs^{26,34}-bis(N*-tetradecanoyl)-GLP-1(7-36)amide; Gly⁸Lys²⁶(N^{*}-tetradecanoyl)-GLP-1(7-36)amide; Gly⁸Lys³⁴(N*-tetradecanoyl)-GLP-1(7-36)amide; Glv^aLys^{26,34}-bis(N*-tetradecanoyl)-GLP-1(7-36)amide; Arg²⁶Lys³⁴(N^{*}-tetradecanoyl)-GLP-1(7-36)amide; Gly⁸Arg²⁶Lys³⁴(N^{*}-tetradecanoyl)-GLP-1(7-37); Lvs²⁶(N^s-tetradecanovI)Arg³⁴-GLP-1(7-37): Gly⁸Lys²⁶(N⁴-tetradecanoyl)Arg³⁴-GLP-1(7-37); Arg^{26,34}Lys³⁶(N^s-tetradecanoyl)-GLP-1(7-37); Giy⁸Arg^{28,34}Lys³⁶(N^{*}-tetradecanoyl)-GLP-1(7-37); Gly⁸Arg²⁶Lys³⁴(N^{*}-tetradecanoyl)-GLP-1(7-38); Lys²⁶(N^s-tetradecanoyl)Arg³⁴-GLP-1(7-38); Giv⁸Lys²⁶(N^{*}-tetradecanoyi)Arg³⁴-GLP-1(7-38); Arg^{26,34}Lys³⁶(N^{*}-tetradecanoyl)-GLP-1(7-38); Arg^{26,34}Lys³⁸(N^{*}-tetradecanoyl)-GLP-1(7-38); Gly⁸Arg^{26,34}Lys³⁶(N^c-tetradecanoyl)-GLP-1(7-38); Gly⁸Arg²⁶Lys³⁴(N^s-tetradecanoyl)-GLP-1(7-39); Lys²⁶(N*-tetradecanoyl)Arg³⁴-GLP-1(7-39); Gly⁸Lys²⁵(N*-tetradecanoyl)Arg³⁴-GLP-1(7-39); Arg^{26,34}Lys³⁶(N^{*}-tetradecanoyi)-GLP-1(7-39); Glv⁸Arg^{28,34}Lvs³⁶(N^{*}-tetradecanovI)-GLP-1(7-39);

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Glv⁸Arg²⁶Lvs³⁴(N^{*}-tetradecanoyl)-GLP-1(7-40); Lys²⁶(N*-tetradecanoyi)Arg³⁴-GLP-1(7-40); Glv⁸Lvs²⁶(N^{*}-tetradecanovi)Arg³⁴-GLP-1(7-40); Arg^{26,34}Lys³⁶(N^e-tetradecanoyl)-GLP-1(7-40); Glv⁸Arg^{26,34}Lys³⁶(N^{*}-tetradecanoyl)-GLP-1(7-40); Lys²⁶(N^{*}-(ω-carboxynonadecanoyl))-GLP-1(7-37); Lvs³⁴(N^s-(ω-carboxynonadecanoyl))-GLP-1(7-37); Lvs^{26,34}-bis(N^t-(ω-carboxynonadecanoyl))-GLP-1(7-37); Gly⁸Lys²⁶(N⁴-(ω-carboxynonadecanoyl))-GLP-1(7-37); Gly⁸Lys³⁴(N⁴-(ω-carboxynonadecanoyl))-GLP-1(7-37); Gly⁸Lys^{26,34}-bis(N^ε-(ω-carboxynonadecanoyl))-GLP-1(7-37); Lys²⁶(N^s-(ω-carboxynonadecanoyl))-GLP-1(7-38); Lys³⁴(N^s-(ω-carboxynonadecanoyl))-GLP-1(7-38); Lys^{26,34}-bis(N^{*}-(ω-carboxynonadecanoyl))-GLP-1(7-38); Gly^aLys²⁶(N^{*}-(ω-carboxynonadecanoyl))-GLP-1(7-38); Glv⁸Lys³⁴(N⁴-(ω-carboxynonadecanoyl))-GLP-1(7-38); Gly⁸Lys^{26,34}-bis(N^ε-(ω-carboxynonadecanoyl))-GLP-1(7-38); Lys²⁶(N^s-(ω-carboxynonadecanoyl))-GLP-1(7-39); Lys³⁴(N^ε-(ω-carboxynonadecanoyl))-GLP-1(7-39); Lys^{26,34}-bis(N^e-(ω -carboxynonadecanoyl))-GLP-1(7-39); Gly⁸Lys²⁶(N^ε-(ω-carboxynonadecanoyl))-GLP-1(7-39); Gly⁸Lys³⁴(N^s-(ω-carboxynonadecanoyl))-GLP-1(7-39); Gly⁸Lys^{26,34}-bis(N^ε-(ω-carboxynonadecanoyl))-GLP-1(7-39); Lys²⁶(N^ε-(ω-carboxynonadecanoyl))-GLP-1(7-40); Lys³⁴(N^ε-(ω-carboxynonadecanoyl))-GLP-1(7-40); Lys^{26,34}-bis(N^e-(ω-carboxynonadecanoyl))-GLP-1(7-40); Gly⁸Lys²⁶(N^ε-(ω-carboxynonadecanoyl))-GLP-1(7-40); Gly⁸Lys³⁴(N^{*}-(ω-carboxynonadecanoyl))-GLP-1(7-40); Gly⁸Lys^{26,34}-bis(N⁴-(ω-carboxynonadecanoyl))-GLP-1(7-40); Lys²⁶(N^{*}-(ω-carboxynonadecanoyl))-GLP-1(7-36); Lys³⁴(N^ε-(ω-carboxynonadecanoyi))-GLP-1(7-36); Lys^{26,34}-bis(N^ε-(ω-carboxynonadecanoyl))-GLP-1(7-36); Gly⁸Lys²⁶(N^t-(ω-carboxynonadecanoyl))-GLP-1(7-36);

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Glv⁸Lvs³⁴(N^r-(ω-carboxynonadecanoyl))-GLP-1(7-36); Glv⁸Lvs^{26,34}-bis(N^e-(w-carboxynonadecanoyl))-GLP-1(7-36); Lys²⁶(N^e-(ω -carboxynonadecanoyl))-GLP-1(7-36)amide; Lvs³⁴(N^s-(ω -carboxynonadecanoyl))-GLP-1(7-36)amide; Lys^{26,34}-bis(N^s-(ω -carboxynonadecanoyi))-GLP-1(7-36)amide; Glv^aLys²⁶(N^L-(w-carboxynonadecanoyl))-GLP-1(7-36)amide; Glv⁸Lvs³⁴(N^ε-(ω-carboxynonadecanoyl))-GLP-1(7-36)amide; Glv⁸Lys^{28,34}-bis(N^{*}-(ω-carboxynonadecanoyl))-GLP-1(7-36)amide; Lys26(N*-(ω-carboxynonadecanoyl))-GLP-1(7-35); Lys³⁴(N^s-(w-carboxynonadecanoyl))-GLP-1(7-35); Lys^{26,34}-bis(N^s-(ω-carboxynonadecanoyl))-GLP-1(7-35); Gly⁸Lys²⁶(N^ε-(ω-carboxynonadecanoyl))-GLP-1(7-35); Glv⁸Lvs³⁴(N^ε-(ω-carboxynonadecanoyl))-GLP-1(7-35); Glv⁸Lvs^{26,34}-bis(N^ε-(ω-carboxynonadecanoyl))-GLP-1(7-35); Arg²⁶Lys³⁴(N^{*}-(ω-carboxynonadecanoyl))-GLP-1(7-37); Gly⁸Arg²⁶Lys³⁴(N^ε-(ω-carboxynonadecanoyl))-GLP-1(7-37); Lys²⁶(N⁴-(ω-carboxynonadecanoyl))Arg³⁴-GLP-1(7-37); Gly⁸Lys²⁶(N^s-(ω-carboxynonadecanoyl))Arg³⁴-GLP-1(7-37); Arg^{26,34}Lys³⁶(N^s-(ω--carboxynonadecanoyl))-GLP-1(7-37); Gly⁸Arg^{26,34}Lys³⁶(N⁶-(ω-carboxynonadecanoyl))-GLP-1(7-37); Arg²⁶Lys³⁴(N^ε-(ω-carboxynonadecanoyl))-GLP-1(7-38); Gly⁸Arg²⁶Lys³⁴(N^ε-(ω-carboxynonadecanoyl))-GLP-1(7-38); Lys²⁶(N^s-(ω--carboxynonadecanoyl))Arg³⁴-GLP-1(7-38); Gly⁸Lys²⁶(N^ε-(ω-carboxynonadecanoyl))Arg³⁴-GLP-1(7-38); Arg^{26,34}Lys³⁶(N^{*}-(ω--carboxynonadecanoyi))-GLP-1(7-38); Arg^{26,34}Lys³⁸(N^ε-(ω-carboxynonadecanoyl))-GLP-1(7-38); Gly⁸Arg^{26,34}Lys³⁶(N^{*}-(ω-carboxynonadecanoyl))-GLP-1(7-38); Arg²⁶Lys³⁴(N¹-(w-carboxynonadecanoyl))-GLP-1(7-39); Gly⁸Arg²⁶Lys³⁴(N^ε-(ω-carboxynonadecanoyl))-GLP-1(7-39); Lys²⁶(N*-(ω-carboxynonadecanoyl))Arg³⁴-GLP-1(7-39); Gly⁸Lys²⁶(N*-(ω-carboxynonadecanoyl))Arg³⁴-GLP-1(7-39); Arg^{26,34}Lys³⁶(N^s-(ω-carboxynonadecanoyl))-GLP-1(7-39); Gly8Arg26.34Lys36(N*-(w-carboxynonadecanoyi))-GLP-1(7-39);

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Arg²⁶Lys³⁴(N^{*}-(ω-carboxynonadecanoyl))-GLP-1(7-40); Gly⁸Arg²⁸Lys³⁴(N^{*}-(ω-carboxynonadecanoyl))-GLP-1(7-40); Lys²⁸(N^{*}-(w--carboxynonadecanoyl))Arg³⁴-GLP-1(7-40); Gly⁸Lys²⁶(N^{*}-(ω-carboxynonadecanoyl))Arg³⁴-GLP-1(7-40); Arg^{26,34}Lys³⁶(N^s-(ω-carboxynonadecanoyl))-GLP-1(7-40); Gly8Arg^{26,34}Lys³⁶(N^ε-(ω-carboxynonadecanoyl))-GLP-1(7-40); Lys²⁶(N^{*}-(7-deoxycholoy!))-GLP-1(7-37); Lys³⁴(N*-(7-deoxycholoyl))-GLP-1(7-37); Lys^{26,34}-bis(N*-(7-deoxycholoyi))-GLP-1(7-37); Gly⁸Lys²⁶(N^e-(7-deoxycholoyl))-GLP-1(7-37); Gly⁸Lys³⁴(N⁴-(7-deoxycholoyi))-GLP-1(7-37); Giv⁸Lys^{26,34}-bis(N^e-(7-deoxycholoyl))-GLP-1(7-37); Arg²⁶Lys³⁴(N^e-(7-deoxycholoyl))-GLP-1(7-37); Lys²⁶(N*-(7-deoxycholoyl))-GLP-1(7-38); Lys34(Nt-(7-deoxycholoyi))-GLP-1(7-38); Lys^{26,34}-bis(N^{*}-(7-deoxycholoyl))-GLP-1(7-38); Gly⁸Lys²⁶(N^{*}-(7-deoxycholoyl))-GLP-1(7-38); Gly⁸Lys³⁴(N^c-(7-deoxycholoyl))-GLP-1(7-38); Gly⁸Lys^{26,34}-bis(N^e-(7-deoxycholoyl))-GLP-1(7-38); Arg²⁶Lys³⁴(N^e-(7-deoxycholoyl))-GLP-1(7-38); Lys²⁶(N^c-(7-deoxycholoyl))-GLP-1(7-39); Lys³⁴(N^c-(7-deoxycholoyl))-GLP-1(7-39); Lys^{26,34}-bis(N^{*}-(7-deoxycholoyl))-GLP-1(7-39); Gly⁸Lys²⁶(N⁴-(7-deoxycholoyl))-GLP-1(7-39); Gly⁸Lys³⁴(N^r-(7-deoxycholoyi))-GLP-1(7-39); Gly⁸Lys^{26,34}-bis(N^e-(7-deoxycholoyl))-GLP-1(7-39); Arg²⁶Lys³⁴(N^r-(7-deoxycholoyi))-GLP-1(7-39); Lys²⁶(N^{*}-(7-deoxycholoyl))-GLP-1(7-40); Lys³⁴(N^t-(7-deoxycholoyi))-GLP-1(7-40); Lys^{26,34}-bis(N^r-(7-deoxycholoyl))-GLP-1(7-40); Gly⁸Lys²⁶(N^c-(7-deoxycholoyl))-GLP-1(7-40); Gly⁸Lys³⁴(N^c-(7-deoxycholoyl))-GLP-1(7-40); Gly⁸Lys^{28,34}-bis(N^s-(7-deoxycholoyl))-GLP-1(7-40);

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Arg²⁶Lys³⁴(N^{*}-(7-deoxycholoyl))-GLP-1(7-40); Lys²⁶(N^{*}-(7-deoxycholoyi))-GLP-1(7-36); Lys³⁴(N^{*}-(7-deoxycholoyl))-GLP-1(7-36); Lys^{26,34}-bis(N^{*}-(7-deoxycholoyl))-GLP-1(7-36); Gly⁸Lys²⁶(N^e-(7-deoxycholoyi))-GLP-1(7-36); Gly⁸Lys³⁴(N^e-(7-deoxycholoyl))-GLP-1(7-36); Glv^aLys^{26,34}-bis(N^{*}-(7-deoxycholoyl))-GLP-1(7-36); Arg²⁶Lys³⁴(N^s-(7-deoxycholoyi))-GLP-1(7-36); Lys²⁶(N^e-(7-deoxycholoyl))-GLP-1(7-35); Lys³⁴(N^r-(7-deoxycholoyl))-GLP-1(7-35); Lys^{26,34}-bis(N^e-(7-deoxycholoyl))-GLP-1(7-35); Gly⁸Lys²⁶(N⁴-(7-deoxycholoyl))-GLP-1(7-35); Gly⁸Lys³⁴(N^e-(7-deoxycholoyi))-GLP-1(7-35); Gly⁸Lys^{26,34}-bis(N⁴-(7-deoxycholoyl))-GLP-1(7-35); Arg²⁶Lys³⁴(N^c-(7-deoxycholoyl))-GLP-1(7-35); Lys26(N*-(7-deoxycholoyl))-GLP-1(7-36)amide; Lys34(N^s-(7-deoxycholoyl))-GLP-1(7-36)amide; Lys^{26,34}-bis(N*-(7-deoxycholoyl))-GLP-1(7-36)amide; Gly⁸Lys²⁶(N^s-(7-deoxycholoyl))-GLP-1(7-36)amide; Gly⁸Lys³⁴(N¹-(7-deoxycholoyl))-GLP-1(7-36)amide; Gly⁸Lys^{28,34}-bis(N^c-(7-deoxycholoyl))-GLP-1(7-36)amide; Arg²⁶Lys³⁴(N^s-(7-deoxycholoyl))-GLP-1(7-36)amide; Gly⁸Arg²⁶Lys³⁴(N^e-(7-deoxycholoyi))-GLP-1(7-37); Lys²⁶(N^s-(7-deoxycholoyl))Arg³⁴-GLP-1(7-37); Gly⁸Lys²⁶(N^e-(7-deoxycholoyl))Arg³⁴-GLP-1(7-37); Arg^{26,34}Lys³⁶(N^{*}-(7-deoxycholoyl))-GLP-1(7-37); Gly⁸Arg^{26,34}Lys³⁶(N^e-(7-deoxycholoyi))-GLP-1(7-37); Lys26(N-(choloyl))-GLP-1(7-37); Lys³⁴(N^e-(choloyl))-GLP-1(7-37); Lys^{26,34}-bis(N⁴-(choloyl))-GLP-1(7-37); Gly⁸Lys²⁸(N^{*}-(choloyl))-GLP-1(7-37); Gly⁸Lys³⁴(N^{*}-(choloyi))-GLP-1(7-37); Gly⁸Lys^{26,34}-bis(N^e-(choloyl))-GLP-1(7-37);

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Gly ⁸ A	vg ²⁶	٥Lys	³⁴ (N'	-(7-deoxy	choloyl))-GLF	P-1(7-38);
Lys ²⁶	(N⁵-	(7-d	leoxy	/choloyi))/	مrg ³⁴ -G	LP-1(7-38);

Gly⁸Lys²⁶(N^{*}-(7-deoxycholoyl))Arg³⁴-GLP-1(7-38); Arg^{26,34}Lys³⁶(N^s-(7-deoxycholoyl))-GLP-1(7-38);

Arg^{26,34}Lys³⁸(N^s-(7-deoxycholoy!))-GLP-1(7-38); Glv⁸Arg^{26,34}Lys³⁶(N^s-(7-deoxycholoyl))-GLP-1(7-38);

Arg26Lys34(N=-(choloyi))-GLP-1(7-37);

Lys26(N*-(choloyl))-GLP-1(7-38); Lys34(N*-(choloyl))-GLP-1(7-38);

Lys^{26,34}-bis(N*-(choloyl))-GLP-1(7-38);

Gly⁸Lys²⁶(N^{*}-(choioyi))-GLP-1(7-38); Gly⁸Lys³⁴(N⁴-(choloyl))-GLP-1(7-38);

Arg²⁶Lys³⁴(N*-(choloyl))-GLP-1(7-38);

Lys26(N*-(choloyi))-GLP-1(7-39); Lys³⁴(N^{*}-(choloyl))-GLP-1(7-39);

Lys^{26,34}-bis(N^{*}-(choloyl))-GLP-1(7-39); Gly⁸Lys²⁶(N^{*}-(choloyi))-GLP-1(7-39); Gly⁸Lys³⁴(N^e-(choloyi))-GLP-1(7-39);

Gly⁸Lys^{28,34}-bis(N^{*}-(choloyl))-GLP-1(7-39);

Gly⁸Arg²⁶Lys³⁴(N^c-(7-deoxycholoyl))-GLP-1(7-40);

Gly⁸Lys²⁶(N^e-(7-deoxycholoyl))Arg³⁴-GLP-1(7-40); Arg^{26,34}Lys³⁶(N⁴-(7-deoxycholoyi))-GLP-1(7-40);

Gly⁸Arg^{26,34}Lys³⁶(N^c-(7-deoxycholoyl))-GLP-1(7-40);

Lys²⁶(N^r-(7-deoxycholoyl))Arg³⁴-GLP-1(7-40);

Arg²⁶Lys³⁴(N^e-(choloyl))-GLP-1(7-39);

Lys26(Nt-(choloyl))-GLP-1(7-40); Lys³⁴(N^e-(choloyl))-GLP-1(7-40);

Gly⁸Lys^{26,34}-bis(N^c-(choloyl))-GLP-1(7-38);

Gly⁸Arg²⁶Lys³⁴(N^{*}-(7-deoxycholoyl))-GLP-1(7-39);

Gly⁸Lys²⁶(N^e-(7-deoxycholoyi))Arg³⁴-GLP-1(7-39); Arg^{26,34}Lys³⁶(N^e-(7-deoxycholoyl))-GLP-1(7-39);

Gly⁸Arg^{26,34}Lys³⁶(N⁴-(7-deoxycholoyl))-GLP-1(7-39);

Lys²⁶(N^s-(7-deoxycholoyl))Arg³⁴-GLP-1(7-39);

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Lys^{28,34}-bis(N^{*}-(choloyi))-GLP-1(7-40); Gly⁸Lys²⁸(N^{*}-(choloyi))-GLP-1(7-40); Gly⁸Lys³⁴(N^{*}-(choloyi))-GLP-1(7-40);

Gly⁸Lys^{26,34}-bis(N^e-(choloyi))-GLP-1(7-40);

Arg²⁶Lys³⁴(N^e-(choloyi))-GLP-1(7-40);

Lys^{26,34}-bis(N^s-(choloyl))-GLP-1(7-36); Gly⁸Lys²⁶(N^s-(choloyl))-GLP-1(7-36); Gly⁸Lys³⁴(N^s-(choloyl))-GLP-1(7-36);

Gly⁸Lys^{26,34}-bis(N^e-(choloyl))-GLP-1(7-36);

Arg²⁶Lys³⁴(N^{*}-(choloy!))-GLP-1(7-36);

Lys^{26,34}-bis(N*-(choloy!))-GLP-1(7-35);

Gly⁸Lys²⁶(N^{*}-(choloyi))-GLP-1(7-35); Gly⁸Lys³⁴(N^{*}-(choloyi))-GLP-1(7-35);

Arg²⁶Lys³⁴(N^c-(choloy!))-GLP-1(7-35);

Lys²⁶(N^e-(choloyl))-GLP-1(7-36)amide; Lys³⁴(N^e-(choloyl))-GLP-1(7-36)amide;

Gly⁸Lys^{26,34}-bis(N^e-(choloyl))-GLP-1(7-35);

Lys^{28,34}-bis(N^s-(choloyl))-GLP-1(7-36)amide; Gly⁸Lys²⁶(N^s-(choloyl))-GLP-1(7-36)amide; Gly⁸Lys³⁴(N^s-(choloyl))-GLP-1(7-36)amide;

Gly⁸Lys^{26,34}-bis(N^e-(choloyl))-GLP-1(7-36)amide;

Arg²⁶Lys³⁴(N^e-(choloyl))-GLP-1(7-36)amide; Gly⁸Arg²⁶Lys³⁴(N^e-(choloyl))-GLP-1(7-37);

Arg²⁶,Lys³⁴ (N⁴-(octanoyl)) GLP-1 (7-37)-OH;

Lys26(N*-(choloyi))Arg34-GLP-1(7-37);

Gly⁸Lys²⁶(N^z-(choloyl))Arg³⁴-GLP-1(7-37);

Arg^{26,34}Lys³⁶(N^e-(choloyl))-GLP-1(7-37); Gly⁸Arg^{26,34}Lys³⁶(N^e-(choloyl))-GLP-1(7-37);

Lys²⁸(N^e-(lithocholoyl))-GLP-1(7-37);

Lys²⁶(N[•]-(choloyl))-GLP-1(7-35); Lys³⁴(N[•]-(choloyl))-GLP-1(7-35);

Lys²⁶(N^t-(choloyl))-GLP-1(7-36); Lys³⁴(N^t-(choloyl))-GLP-1(7-36); 222

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Lys34(N*-(lithocholoyi))-GLP-1(7-37); Lys^{26,34}-bis(N*-(lithocholoyl))-GLP-1(7-37); Gly⁸Lys²⁶(N^e-(lithocholoyl))-GLP-1(7-37); Gly⁸Lys⁵⁴(N^{*}-(lithocholoyl))-GLP-1(7-37); Gly⁸Lys^{26,34}-bis(N^{*}-(lithocholoyl))-GLP-1(7-37); Arg²⁶Lys³⁴(N^{*}-(lithocholoyl))-GLP-1(7-37); Glv⁸Arg²⁶Lys³⁴(Nt-(choloyl))-GLP-1(7-38); Lys28(N*-(choloyi))Arg34-GLP-1(7-38); Gly⁸Lys²⁸(N^e-(choloyi))Arg³⁴-GLP-1(7-38); Arg^{26,34}Lys³⁶(N^{*}-(choloy!))-GLP-1(7-38); Arg^{26,34}Lys³⁸(N^{*}-(choloyl))-GLP-1(7-38); Gly⁸Arg^{26,34}Lys³⁶(N^e-(choloyl))-GLP-1(7-38); Lys²⁶(N*-(lithocholoyl))-GLP-1(7-38); Lys³⁴(N^t-(lithocholoyl))-GLP-1(7-38); Lys^{26,34}-bis(N*-(lithocholoy!))-GLP-1(7-38); Gly⁸Lys²⁶(N^{*}-(lithocholoyi))-GLP-1(7-38); Gly⁸Lys³⁴(N^s-(lithocholoyl))-GLP-1(7-38); Glv⁸Lys^{26,34}-bis(N*-(lithocholoyl))-GLP-1(7-38); Arg²⁶Lys³⁴(N^e-(lithocholoyl))-GLP-1(7-38); Gly8Arg26Lys34(N*-(choloyi))-GLP-1(7-39); Lys²⁶(N[#]-(choloyi))Arg³⁴-GLP-1(7-39); Gly⁸Lys²⁶(N^s-(choloyi))Arg³⁴-GLP-1(7-39); Arg^{26,34}Lys³⁶(N^{*}-(choloyl))-GLP-1(7-39); Gly⁸Arg^{26,34}Lys³⁶(N^{*}-(choloyi))-GLP-1(7-39); Lys²⁶(N^{*}-(lithocholoyl))-GLP-1(7-39); Lys³⁴(N^e-(lithocholoyl))-GLP-1(7-39); Lys^{26,34}-bis(N^e-(lithocholoyl))-GLP-1(7-39); Gly⁸Lys²⁶(N^{*}-(lithocholoyl))-GLP-1(7-39); Gly⁸Lys³⁴(N^e-(lithocholoyl))-GLP-1(7-39); Gly⁸Lys^{26,34}-bis(N^e-(lithocholoyl))-GLP-1(7-39); Arg²⁶Lys³⁴(N^{*}-(lithocholoyl))-GLP-1(7-39); Gly⁸Arg²⁶Lys³⁴(N^{*}-(choloyl))-GLP-1(7-40); Lys²⁶(N^{*}-(choloyl))Arg³⁴-GLP-1(7-40);

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Gly⁸Lys²⁸(N^{*}-(choioyi))Arg³⁴-GLP-1(7-40); Arg^{26,34}Lys³⁶(N^{*}-(choloy!))-GLP-1(7-40);

Gly8Arg28.34Lys36(N*-(choloyi))-GLP-1(7-40);

Lys^{26,34}-bis(N^{*}-(lithocholoyl))-GLP-1(7-40); Gly⁸Lys²⁶(N^{*}-(lithocholoyl))-GLP-1(7-40); Gly⁸Lys³⁴(N^{*}-(lithocholoyl))-GLP-1(7-40);

Gly⁸Lys^{26,34}-bis(N^{*}-(lithocholoyl))-GLP-1(7-40);

Arg²⁶Lys³⁴(N^{*}-(lithocholoyl))-GLP-1(7-36)amide; Gly⁸Arg²⁵Lys³⁴(N^{*}-(lithocholoyl))-GLP-1(7-37);

Lys²⁶(N^{*}-(lithocholoyl))Arg³⁴-GLP-1(7-37);

Arg²⁶Lys³⁴(N^{*}-(lithocholoyl))-GLP-1(7-37);

Lys²⁶(N^{*}-(lithocholoyi))-GLP-1(7-36);

Lys²⁶(N^{*}-(lithocholoyl))-GLP-1(7-40); Lys³⁴(N^t-(lithocholoyl))-GLP-1(7-40);

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Gly⁸Lys²⁸(N^r-(lithocholoyi))Arg³⁴-GLP-1(7-37); Arg^{26,34}Lys³⁶(N⁴-(lithocholoyl))-GLP-1(7-37); Arg^{26,34}Lys³⁸(N*-(lithocholoyl))-GLP-1(7-37); Giv⁸Arg^{26,34}Lys³⁶(N^r-(lithocholoyl))-GLP-1(7-37); Giv⁸Arg²⁶Lys³⁴(N*-(lithocholoyl))-GLP-1(7-38); Lys²⁶(N^s-(lithocholoyl))Arg³⁴-GLP-1(7-38); Glv⁸Lvs²⁶(N⁴-(lithocholoyl))Arg³⁴-GLP-1(7-38); Arg^{26,34}Lys³⁶(N⁴-(lithocholoyi))-GLP-1(7-38); Arg^{26,34}Lys³⁸(N^e-(lithocholoyi))-GLP-1(7-38); Glv⁸Arg^{26,34}Lys³⁶(N^s-(lithocholoyl))-GLP-1(7-38); Gly⁸Arg²⁶Lys³⁴(N^{*}-(lithocholoyi))-GLP-1(7-39); Lys²⁶(N^r-(lithocholoyI))Arg³⁴-GLP-1(7-39); Gly⁸Lys²⁶(N^{*}-(lithocholoyl))Arg³⁴-GLP-1(7-39); Arg^{26,34}Lys³⁶(N^{*}-(lithocholoyl))-GLP-1(7-39); Gly⁸Arg^{26,34}Lys³⁶(N^c-(lithocholoyl))-GLP-1(7-39); Gly⁸Arg²⁶Lys³⁴(N^c-(lithocholoyi))-GLP-1(7-40); Lys²⁶(N^s-(lithocholoyl))Arg³⁴-GLP-1(7-40); Gly⁸Lys²⁶(N^s-(lithocholoyi))Arg³⁴-GLP-1(7-40); Arg^{26,34}Lys³⁶(N^{*}-(lithocholoyl))-GLP-1(7-40) and

Gly⁸Arg^{26,34}Lys³⁶(N^e-(lithocholoyi))-GLP-1(7-40).

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2. A derivative of an analog of GLP-1(7-36), GLP-1(7-37), GLP-1(7-38), or GLP-1(7-39), comprising one or more of the following substitutions:

Ala at position 8 is substituted with Gly, Ser, Thr, Leu, Ile, Val, Glu, Asp, or Lys,

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Glu at position 9 is substituted with Asp or Lys,

- Thr at position 11 is substituted with Ala, Gly, Ser, Leu, Ile, Val, Glu, Asp, or Lys, Ser at position 14 is substituted with Ser, Ala, Gly, Thr, Leu, Ile, Val, Glu, Asp, or Lys, Val at position 16 is substituted with Val, Ala, Gly, Ser, Thr, Leu, Ile, Tyr, Glu, Asp, or Lys,
- Ser at position 17 is substituted with Ser, Ala, Gly, Thr, Leu, Ile, Val, Glu, Asp, or Lys,
 Ser at position 18 is substituted with Ser, Ala, Gly, Thr, Leu, Ile, Val, Glu, Asp, or Lys,
 Tyr at position 19 is substituted with Tyr, Phe, Trp, Glu, Asp, or Lys,
 Leu at position 20 is substituted with Leu, Ala, Gly, Ser, Thr, Leu, Ile, Val, Glu, Asp, or
 Lys,

Glu at position 21 is substituted with Glu, Asp, or Lys,

Gly at position 22 is substituted with Gly, Ala, Ser, Thr, Leu, Ile, Val, Glu, Asp, or Lys,

Gln at position 23 is substituted with Gln, Asn, Arg, Glu, Asp, or Lys,

Ala at position 24 is substituted with Ala, Gly, Ser, Thr, Leu, Ile, Val, Arg, Glu, Asp, or Lys,

Ala at position 25 is substituted with Ala, Gly, Ser, Thr, Leu, Ile, Val, Glu, Asp, or Lys,

Lys at position 26 is substituted with Arg, Gln, Glu, Asp, or His,

Glu at position 27 is substituted with Asp or Lys,

Ala at position 30 is substituted with Gly, Ser, Thr, Leu, Ile, Val, Glu, Asp, or Lys,

Trp at position 31 is substituted with Phe, Tyr, Glu, Asp, or Lys,

Leu at position 32 is substituted with Gly, Ala, Ser, Thr, Ile, Val, Glu, Asp, or Lys, Val at position 33 is substituted with Gly, Ala, Ser, Thr, Leu, Ile, Glu, Asp, or Lys,

Lys at position 34 is substituted with Arg, Glu, Asp, or His,

Gly at position 35 is substituted with Ala, Ser, Thr, Leu, Ile, Val, Glu, Asp, or Lys,

Arg at position 36 is substituted with Lys, Glu, Asp, or His,

Gly at position 37 is substituted with Ala, Ser, Thr, Leu, Ile, Val, Glu, Asp, or Lys,

Arg at position 38 is substituted with Lys, Glu, Asp, or His, and

Arg at position 39 is substituted with Lys, Glu, Asp, or His, or

(a) a C-1-6-ester thereof, (b) amide, C-1-6-alkylamide, or C-1-6-dialkylamide thereof and/or (c) a pharmaceutically acceptable salt thereof,

provided that

A. the derivative of the GLP-1 analog contains only one or two Lys,

- B. the ε-amino group of one or both Lys is substituted with a lipophilic substituent optionally via a spacer.
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C. the total number of different amino acids between the derivative of the GLP-1 analog and the corresponding native form of GLP-1 does not exceed six

D. the derivative of an analog of GLP-1(7-36), GLP-1(7-37), GLP-1(7-38), or GLP-1(7-39), is not selected from:

Lys²⁶(N^e-tetradecanoyl)-GLP-1(7-37),

30 Lys³⁴(N^e-tetradecanoyl)-GLP-1(7-37),

Lys^{28,34}-bis(N^{*}-tetradecanoyl)-GLP-1(7-37),

Lys²⁶(N^s-tetradecanoyl)Arg³⁴-GLP-1(7-37),

Gly⁸Arg^{26,34}Lys³⁶(N^e-tetradecanoyl)-GLP-1(7-37),

Arg^{26,34}Lys³⁶ (N*-tetradecanoyl)-GLP-1(7-37)-OH,

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Lys^{26,34}-bis(N[¢]-(γ -glutamy!(N^e-hexadecanoy!)))-GLP-1(7-37)-OH, Arg³⁴Lys²⁶(N[¢]-(γ -glutamy!(N^e-hexadecanoy!)))-GLP-1(7-37)-OH, Arg^{26,34}Lys³⁸(N[‡]-(γ -glutamy!(N^e-tetradecanoy!)))-GLP-1(7-38)-OH, Arg^{26,34}Lys³⁸(N[‡]-(ω -carboxypentadecanoy!)))-GLP-1(7-38)-OH, Arg^{26,34}Lys³⁸(N[‡]-(γ -glutamy!(N^e-hexadecanoy!)))-GLP-1(7-38)-OH, Arg^{18,23,26,30,34}Lys³⁸(N[‡]-hexadecanoy!)-GLP-1(7-38)-OH, Arg^{26,34}Lys³⁸(N[‡]-(ω -carboxytridecanoy!))-GLP-1(7-38)-OH,

Lys^{26,34}-bis(N^c-(\gamma-glutamyl(N^a-tetradecanoyl)))-GLP-1(7-37)-OH,

Arg^{26,34}Lys³⁸(N^ε-(ω-carboxypentadecanoyl))-GLP-1(7-38)-OH,

Arg³⁴Lys²⁶(N^ε-lithocholyl)-GLP-1(7-37)-OH, Glu^{22,23,30}Arg^{26,34}Lys³⁸(N^ε-(γ-glutamyl(N^e-tetradecanoyl)))-GLP-1(7-38)-OH, Glu^{23,26}Arg³⁴Lys³⁸(N^ε-(γ-glutamyl(N^e-tetradecanoyl)))-GLP-1(7-38)-OH, Lys^{26,34}-bis(N^ε-(ω-carboxytridecanoyl))-GLP-1(7-37)-OH,

- Arg^{26,34}Lys³⁶ (N^ε-(ω-carboxyheptanoyl))-GLP-1(7-37)-OH,

 Arg^{26,34}Lys³⁶ (N^ε-(ω-carboxyheptanoyl))-GLP-1(7-36)-OH,

 Lys^{26,34}bis(N^ε-(ω-carboxyheptanoyl))-GLP-1(7-37)-OH,

 Arg³⁴Lys²⁶ (N^ε-(ω-carboxypentadecanoyl))-GLP-1(7-37)-OH,

 Arg^{26,34}Lys³⁶ (N^ε-(ω-carboxypentadecanoyl))-GLP-1(7-37)-OH,

 Arg^{26,34}Lys³⁶ (N^ε-(ω-carboxypentadecanoyl))-GLP-1(7-37)-OH,

 Arg^{26,34}Lys³⁶ (N^ε-(ω-carboxypentadecanoyl))-GLP-1(7-36)-OH,
- Arg^{26,34}Lys³⁸(N^ε-(ω-carboxyundecanoyl))-GLP-1(7-38)-OH, Lys^{26,34}bis(N^ε-(ω-carboxyundecanoyl))-GLP-1(7-37)-OH, Arg^{26,34}Lys³⁶ (N^ε-(ω-carboxyundecanoyl))-GLP-1(7-36)-OH, Arg³⁴Lys²⁶ (N^ε-(ω-carboxyundecanoyl))-GLP-1(7-37)-OH, Arg³⁴Lys²⁶ (N^ε-(ω-carboxyheptanoyl))-GLP-1(7-37)-OH,
 Arg^{26,34}Lys³⁸(N^ε-(ω-carboxyheptanoyl))-GLP-1(7-38)-OH,
- 5 Arg³⁴Lys²⁶ (N^ε-(ω-carboxyheptadecanoyl))-GLP-1(7-37)-OH, Arg^{26,34}Lys³⁶ (N^ε-(ω-carboxyheptadecanoyl))-GLP-1(7-37)-OH, Arg^{26,34}Lys³⁸(N^ε-(ω-carboxyheptadecanoyl))-GLP-1(7-38)-OH, Arg^{26,34}Lys³⁶ (N^ε-(ω-carboxyheptadecanoyl))-GLP-1(7-37)-OH, Arg^{26,34}Lys³⁶ (N^ε-(ω-carboxyundecanoyl))-GLP-1(7-37)-OH,
 10 Arg^{26,34}Lys³⁸(N^ε-(ω-carboxyundecanoyl))-GLP-1(7-38)-OH,
- Lys^{26,34}bis(N^s-(ω -carboxynonadecanoyl))-GLP-1(7-37)-OH, Arg^{26,34}Lys³⁶(N^s-(ω -carboxynonadecanoyl))-GLP-1(7-36)-OH, Arg³⁴Lys³⁶(N^s-(ω -carboxynonadecanoyl))-GLP-1(7-38)-OH, Arg³⁴Lys²⁶ (N^s-(ω -carboxynonadecanoyl))-GLP-1(7-37)-OH, Arg³⁴Lys²⁶ (N^s-(ω -carboxyheptadecanoyl))-GLP-1(7-37)-OH,

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Lys²⁶(N^{*}-tetradecanoyl)-GLP-1(7-37); Lys³⁴(N^{*}-tetradecanoyl)-GLP-1(7-37); Lys^{26,34}-bis(N^{*}-tetradecanoyl)-GLP-1(7-37); Gly⁸Lys²⁶(N^{*}-tetradecanoyl)-GLP-1(7-37); Gly⁸Lys³⁴(N^{*}-tetradecanoyl)-GLP-1(7-37); Gly⁸Lys^{26,34}-bis(N^{*}-tetradecanoyl)-GLP-1(7-37); Arg²⁶Lys³⁴(N^{*}-tetradecanoyl)-GLP-1(7-38); Lys³⁴(N^{*}-tetradecanoyl)-GLP-1(7-38);

Arg³⁴Lys²⁶(N^s-(γ-glutamyl(N^α-tetradecanoyl)))-GLP-1(7-37)-OH, Arg^{26,34}Lys³⁸(N^s-(γ-glutamyl(N^α-octadecanoyl)))-GLP-1(7-38)-OH,

> Lys^{26,34}-bis(N^{*}-tetradecanoyl)-GLP-1(7-38); Gly⁸Lys²⁶(N^{*}-tetradecanoyl)-GLP-1(7-38); Gly⁸Lys³⁴(N^{*}-tetradecanovl)-GLP-1(7-38);

Glv⁸Lvs^{28,34}-bis(N^{*}-tetradecanoyl)-GLP-1(7-38);

Arg²⁶Lys³⁴(N^s-tetradecanoyl)-GLP-1(7-38);

Lys^{26,34}-bis(N^e-tetradecanoyl)-GLP-1(7-39);

Gly⁸Lys²⁶(N^e-tetradecanoyl)-GLP-1(7-39); Gly⁸Lys³⁴(N^e-tetradecanoyl)-GLP-1(7-39);

Arg²⁶Lys³⁴(N^s-tetradecanoyi)-GLP-1(7-39);

Lys^{26,34}-bis(N*-tetradecanoyl)-GLP-1(7-36); Gly⁸Lys²⁶(N*-tetradecanoyl)-GLP-1(7-36); Gly⁸Lys³⁴(N*-tetradecanoyl)-GLP-1(7-36);

Gly⁸Lys^{26,34}-bis(N^{*}-tetradecanoyl)-GLP-1(7-36);

Arg²⁶Lys³⁴(N^{*}-tetradecanoyl)-GLP-1(7-36); Lys²⁶(N^{*}-tetradecanoyl)-GLP-1(7-36)amide; Lys³⁴(N^{*}-tetradecanoyl)-GLP-1(7-36)amide;

Lys²⁶(N*-tetradecanoyl)-GLP-1(7-36);

Lys³⁴(N^e-tetradecanoyl)-GLP-1(7-36);

Gly⁸Lys^{26,34}-bis(N^e-tetradecanoyl)-GLP-1(7-39);

Lys²⁶(N^{*}-tetradecanoyl)-GLP-1(7-39); Lys³⁴(N^{*}-tetradecanoyl)-GLP-1(7-39);

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Lys^{26,34}-bis(N^s-tetradecanoyl)-GLP-1(7-36)amide; Gly⁸Lys²⁶(N^{*}-tetradecanoyl)-GLP-1(7-36)amide; Glv⁸Lys³⁴(N⁴-tetradecanoyl)-GLP-1(7-36)amide; Giv^aLys^{26,34}-bis(N^e-tetradecanoyl)-GLP-1(7-36)amide; Arg²⁶Lys³⁴(N^s-tetradecanoyl)-GLP-1(7-36)amide; Giv⁸Arg²⁶Lvs³⁴(N^s-tetradecanoyi)-GLP-1(7-37); Lvs²⁶(N^s-tetradecanoyl)Arg³⁴-GLP-1(7-37); Gly⁸Lys²⁶(N^s-tetradecanoyl)Arg³⁴-GLP-1(7-37); Arg^{26,34}Lys³⁶(N⁴-tetradecanoyl)-GLP-1(7-37); Glv⁸Arg^{26,34}Lys³⁶(N⁴-tetradecanoyl)-GLP-1(7-37); Gly⁸Arg²⁶Lys³⁴(N^e-tetradecanoyl)-GLP-1(7-38); Lys²⁶(N^s-tetradecanoyl)Arg³⁴-GLP-1(7-38); Glv⁸Lvs²⁶(N^r-tetradecanovI)Arg³⁴-GLP-1(7-38); Arg^{26,34}Lys³⁵(N^s-tetradecanoyl)-GLP-1(7-38); Arg^{26,34}Lys³⁸(N^e-tetradecanoyl)-GLP-1(7-38); Glv⁸Arg^{26,34}Lys³⁶(N^s-tetradecanoyl)-GLP-1(7-38); Gly⁸Arg²⁶Lys³⁴(N^s-tetradecanoyl)-GLP-1(7-39); Lvs²⁶(N*-tetradecanovI)Arg³⁴-GLP-1(7-39); Glv⁸Lvs²⁶(N^e-tetradecanovl)Arg³⁴-GLP-1(7-39); Arg^{26,34}Lys³⁶(N⁴-tetradecanoyl)-GLP-1(7-39); Gly⁸Arg^{26,34}Lys³⁶(N^c-tetradecanoyl)-GLP-1(7-39); Lys²⁶(N^{*}-(@-carboxynonadecanoyi))-GLP-1(7-37); Lys34(N*-(w-carboxynonadecanoyl))-GLP-1(7-37); Lys^{26,34}-bis(N^ε-(ω-carboxynonadecanoyl))-GLP-1(7-37); Gly⁸Lys²⁶(N^s-(ω-carboxynonadecanoyl))-GLP-1(7-37); Gly⁸Lys³⁴(N^{*}-(ω-carboxynonadecanoyl))-GLP-1(7-37); Gly⁸Lys^{26,34}-bis(N^ε-(ω-carboxynonadecanoyl))-GLP-1(7-37); Lys²⁶(N^s-(ω -carboxynonadecanoyl))-GLP-1(7-38); Lys³⁴(N^c-(ω-carboxynonadecanoyl))-GLP-1(7-38); Lys^{26,34}-bis(N^{*}-(w-carboxynonadecanoyl))-GLP-1(7-38); Gly⁸Lys²⁶(N^{*}-(ω-carboxynonadecanoyl))-GLP-1(7-38); Gly⁸Lys³⁴(N^t-(ω-carboxynonadecanoyl))-GLP-1(7-38); Glv⁸Lvs^{26,34}-bis(N^ε-(ω-carboxynonadecanoyl))-GLP-1(7-38);

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Lys²⁶(N^ε-(ω-carboxynonadecanoyl))-GLP-1(7-39); Lys³⁴(N^{*}-(w-carboxynonadecanoyl))-GLP-1(7-39); Lys^{26,34}-bis(N^ε-(ω-carboxynonadecanoyl))-GLP-1(7-39); Glv⁸Lys²⁶(N⁴-(ω-carboxynonadecanoyl))-GLP-1(7-39); Gly⁸Lys³⁴(N^ε-(ω-carboxynonadecanoyl))-GLP-1(7-39); Gly⁸Lys^{26,34}-bis(N^ε-(ω-carboxynonadecanoyl))-GLP-1(7-39); Lys²⁶(N^{*}-(ω -carboxynonadecanoyl))-GLP-1(7-36); Lys³⁴(N^{*}-(ω-carboxynonadecanoyl))-GLP-1(7-36); Lys^{26,34}-bis(N^s-(ω-carboxynonadecanoyl))-GLP-1(7-36); Glv⁸Lvs²⁶(N⁴-(ω-carboxynonadecanovl))-GLP-1(7-36); Gly⁸Lys³⁴(N^ε-(ω-carboxynonadecanoyl))-GLP-1(7-36); Gly⁸Lys^{26,34}-bis(N^ε-(ω-carboxynonadecanoyl))-GLP-1(7-36); Lys²⁶(N^s-(w-carboxynonadecanoyl))-GLP-1(7-36)amide; Lys³⁴(N^t-(ω -carboxynonadecanoyl))-GLP-1(7-36)amide; Lys^{26,34}-bis(N^{*}-(ω-carboxynonadecanoyl))-GLP-1(7-36)amide; Gly⁸Lys²⁸(N^{*}-(ω-carboxynonadecanoyl))-GLP-1(7-36)amide; Gly⁸Lys³⁴(N⁶-(ω-carboxynonadecanoyl))-GLP-1(7-36)amide; Gly⁸Lys^{26,34}-bis(N^ε-(ω-carboxynonadecanoyl))-GLP-1(7-36)amide; Arg²⁶Lys³⁴(N^e-(w-carboxynonadecanoyl))-GLP-1(7-37); Gly⁸Arg²⁶Lys³⁴(N^ε-(ω-carboxynonadecanoyl))-GLP-1(7-37); Lys²⁶(N⁴-(ω-carboxynonadecanoyl))Arg³⁴-GLP-1(7-37); Gly⁸Lys²⁶(N^s-(ω-carboxynonadecanoyi))Arg³⁴-GLP-1(7-37); Arg^{26,34}Lys³⁶(N^ε-(ω-carboxynonadecanoyl))-GLP-1(7-37); Gly⁸Arg^{28,34}Lys³⁶(N^ε-(ω-carboxynonadecanoyl))-GLP-1(7-37); Arg²⁶Lys³⁴(N^ε-(ω-carboxynonadecanoyl))-GLP-1(7-38); Glv⁸Arg²⁶Lvs³⁴(N^ε-(ω-carboxvnonadecanovi))-GLP-1(7-38); Lys²⁶(N⁶-(ω -carboxynonadecanoyi))Arg³⁴-GLP-1(7-38); Gly⁸Lys²⁶(N^ε-(ω-carboxynonadecanoyl))Arg³⁴-GLP-1(7-38); Arg^{26,34}Lys³⁶(N^t-(ω-carboxynonadecanoyl))-GLP-1(7-38); Arg^{28,34}Lys³⁸(N⁴-(ω-carboxynonadecanoyl))-GLP-1(7-38); Gly⁸Arg^{26,34}Lys³⁶(N⁴-(ω-carboxynonadecanovl))-GLP-1(7-38); Arg²⁶Lys³⁴(N^ε-(ω-carboxynonadecanoyl))-GLP-1(7-39); Gly⁸Arg²⁶Lys³⁴(N^{*}-(ω-carboxynonadecanoyl))-GLP-1(7-39);

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Lys ²⁶ (Ν*-(ω-	-carboxynonadecanoyl))Arg ³⁴ -GLP-1(7-39);
Gly ⁸ Lys ²⁶ (N	•-(ω-carboxynonadecanoyl))Arg ³⁴ -GLP-1(7-39);
Arg ^{26,34} Lys ³⁶	ⁱ (N [*] -(ω-carboxynonadecanoyl))-GLP-1(7-39);
Gly ⁸ Arg ^{26,34} l	_ys ³⁶ (N⁼-(ω–carboxynonadecanoyl))-GLP-1(7-39);
Lys ²⁶ (N*-(7-	deoxycholoyl))-GLP-1(7-37);
Lys ³⁴ (N'-(7-	deoxycholoyl))-GLP-1(7-37);
Lys ^{26,34} -bis(Nº-(7-deoxycholoyl))-GLP-1(7-37);
Gly ⁸ Lys ²⁶ (N	"-(7-deoxycholoyl))-GLP-1(7-37);
Gly ⁸ Lys ³⁴ (N	-(7-deoxycholoyl))-GLP-1(7-37);
Gly ⁸ Lys ^{26,34} -	bis(N [*] -(7-deoxycholoyl))-GLP-1(7-37);
Arg ²⁶ Lys ³⁴ (1	Nf-(7-deoxycholoyi))-GLP-1(7-37);
Lys ²⁶ (N*-(7-	deoxycholoyl))-GLP-1(7-38);
Lys ³⁴ (N ^s -(7-	deoxycholoyl))-GLP-1(7-38);
Lys ^{26,34} -bis(Nº-(7-deoxycholoyl))-GLP-1(7-38);
Gly ⁸ Lys ²⁶ (N	"-(7-deoxycholoyl))-GLP-1(7-38);
Gły ⁸ Lys ³⁴ (N	-(7-deoxycholoyl))-GLP-1(7-38);
Gly ⁸ Lys ^{26,34}	-bis(N ^s -(7-deoxycholoyl))-GLP-1(7-38);
Arg ²⁶ Lys ³⁴ (I	N ^s -(7-deoxycholoyl))-GLP-1(7-38);
Lys ²⁶ (N [*] -(7-	deoxycholoyl))-GLP-1(7-39);
Lys ³⁴ (N [*] -(7-	deoxycholoyl))-GLP-1(7-39);
Lys ^{26,34} -bis(N [•] -(7-deoxycholoyl))-GLP-1(7-39);
Gly ⁸ Lys ²⁶ (N	"-(7-deoxycholoyi))-GLP-1(7-39);
Gly ⁸ Lys ³⁴ (N	f-(7-deoxycholoyl))-GLP-1(7-39);
Gly ⁸ Lys ^{26,34}	-bis(N [•] -(7-deoxycholoyl))-GLP-1(7-39);
Arg ²⁶ Lys ³⁴ (I	N°-(7-deoxycholoyl))-GLP-1(7-39);
Lys ²⁶ (N⁵-(7⋅	-deoxycholoyl))-GLP-1(7-36);
Lys ³⁴ (N [*] -(7-	-deoxycholoyl))-GLP-1(7-36);
Lys ^{28,34} -bis(N [•] -(7-deoxycholoyl))-GLP-1(7-36);
Gly ⁸ Lys ²⁶ (N	I ^s -(7-deoxycholoyl))-GLP-1(7-36);
Gly⁵Lys³4(N	I [*] -(7-deoxycholoyl))-GLP-1(7-36);
Gly ⁸ Lys ^{26,34}	-bis(N ^s -(7-deoxycholoyl))-GLP-1(7-36);
Arg ²⁶ Lys ³⁴ (I	N=-(7-deoxycholoyl))-GLP-1(7-36);
Lys ²⁶ (N [*] -(7-	-deoxycholoy!))-GLP-1(7-36)amide;

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Lys34(N*-(7-deoxycholoyl))-GLP-1(7-36)amide;

Lys^{28,34}-bis(N^e-(7-deoxycholoyl))-GLP-1(7-36)amide; Gly⁸Lys²⁶(N^{*}-(7-deoxycholoyl))-GLP-1(7-36)amide; Gly⁸Lys³⁴(N^{*}-(7-deoxycholoyl))-GLP-1(7-36)amide;

Gly⁸Lys^{26,34}-bis(N^s-(7-deoxycholoyl))-GLP-1(7-36)amide;

Arg²⁶Lys³⁴(N^s-(7-deoxycholoyl))-GLP-1(7-36)amide; Gly⁸Arg²⁶Lys³⁴(N^s-(7-deoxycholoyl))-GLP-1(7-37);

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L	ys ²⁶ (N [*] -(7-deoxycholoyl))Arg ³⁴ -GLP-1(7-37);
G	ily ⁸ Lys ²⁶ (N [*] -(7-deoxycholoyl))Arg ³⁴ -GLP-1(7-37);
A	rg ^{28,34} Lys ³⁶ (N [*] -(7-deoxycholoyl))-GLP-1(7-37);
G	ily ⁸ Arg ^{26,34} Lys ³⁶ (N*-(7-deoxycholoyl))-GLP-1(7-37);
Ľ	ys²⁵(N⁵-(choloyl))-GLP-1(7-37);
Ľ	ys³⁴(№-(choloyl))-GLP-1(7-37);
Ľ	ys ^{26,34} -bis(N [*] -(choloyl))-GLP-1(7-37);
G	iy ^s Lys ²⁶ (N⁵-(choloy!))-GLP-1(7-37);
G	iy ^s Lys ³⁴ (N⁼-(choloyi))-GLP-1(7-37);
G	ily ⁸ Lys ^{26,34} -bis(N⁺-(choloyl))-GLP-1(7-37);
A	rg ²⁶ Lys ³⁴ (№-(choloyl))-GLP-1(7-37);
G	، ly ⁸ Arg ²⁶ Lys ³⁴ (N [•] -(7-deoxycholoyl))-GLP-1(7-38);
L	ys ²⁶ (N [•] -(7-deoxycholoyl))Arg ³⁴ -GLP-1(7-38);
G	ly ^s Lys ²⁸ (N⁵-(7-deoxycholoyl))Arg ³⁴ -GLP-1(7-38);
A	rg ^{26.34} Lys ³⁶ (N [*] -(7-deoxycholoyl))-GLP-1(7-38);
A	rg ^{26,34} Lys ³⁸ (N [*] -(7-deoxycholoyi))-GLP-1(7-38);
G	aly ⁸ Arg ^{26,34} Lys ³⁶ (№-(7-deoxycholoyl))-GLP-1(7-38);
L	ys²⁵(N⁵-(choloyl))-GLP-1(7-38);
L	ys³⁴(N⁵-(choloyl))-GLP-1(7-38);
L	ys ^{26,34} -bis(N ^s -(choloyl))-GLP-1(7-38);
G	۵٬y ⁸ Lys ²⁶ (N⁵-(choloyl))-GLP-1(7-38);
G	۵٫۷۴Lys ³⁴ (N⁵-(choloyl))-GLP-1(7-38);
G	۶٫۵۶ ^{26,34} -bis(№-(choloyl))-GLP-1(7-38)
A	رrg ²⁶ Lys ³⁴ (N²-(choloyl))-GLP-1(7-38);
	Gly ⁸ Arg ²⁶ Lys ³⁴ (N'-(7-deoxycholoyl))-GLP-1(7-39);
	ys ²⁶ (№-(7-deoxycholoyl))Arg ³⁴ -GLP-1(7-39);

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Gly⁸Lys²⁶(N^{*}-(7-deoxycholoyl))Arg³⁴-GLP-1(7-39); Arg^{26,34}Lys³⁶(N^s-(7-deoxycholoyl))-GLP-1(7-39);

Lys^{26,34}-bis(N^s-(choloyl))-GLP-1(7-39); Gly⁸Lys²⁶(N^s-(choloyi))-GLP-1(7-39); Glv⁸Lys³⁴(N⁴-(choloyi))-GLP-1(7-39);

Gly⁸Lys^{26,34}-bis(N^{*}-(choloyl))-GLP-1(7-39);

Arg²⁶Lys³⁴(N^{*}-(choloyi))-GLP-1(7-39);

Lys^{26,34}-bis(N^e-(choloyl))-GLP-1(7-36); Gly⁸Lys²⁶(N^c-(choloyl))-GLP-1(7-36); Gly⁸Lys³⁴(N^s-(choloyi))-GLP-1(7-36);

Gly⁸Lys^{26,34}-bis(N^e-(choloyl))-GLP-1(7-36);

Lys^{26,34}-bis(N^s-(choloyl))-GLP-1(7-36)amide;

Gly8Lys26(Ne-(choloyl))-GLP-1(7-36)amide; Gly⁸Lys³⁴(N^s-(choloyl))-GLP-1(7-36)amide;

Gly⁸Lys^{26,34}-bis(N^s-(choloyl))-GLP-1(7-36)amide;

Arg²⁶Lys³⁴(N⁶-(choloyl))-GLP-1(7-36)amide; Gly⁸Arg²⁶Lys³⁴(N^e-(choloyl))-GLP-1(7-37);

Arg²⁶,Lys³⁴ (N^s-(octanoyl)) GLP-1 (7-37)-OH;

Lys²⁶(N^c-(choloyl))Arg³⁴-GLP-1(7-37);

Lys²⁶(N^{*}-(lithocholoyl))-GLP-1(7-37); Lys³⁴(N*-(lithocholoyl))-GLP-1(7-37);

Gly⁸Lys²⁶(N⁴-(choloyl))Arg³⁴-GLP-1(7-37); Arg^{26,34}Lys³⁶(N^L-(choloyl))-GLP-1(7-37);

Gly⁸Arg^{26,34}Lys³⁶(N⁶-(choloyl))-GLP-1(7-37);

Lys^{26,34}-bis(N*-(lithocholoyl))-GLP-1(7-37);

Arg²⁶Lys³⁴(N^r-(choloyl))-GLP-1(7-36); Lys26(Nt-(choloyl))-GLP-1(7-36)amide; Lys³⁴(N^s-(choloyi))-GLP-1(7-36)amide;

Lys26(N*-(choloyl))-GLP-1(7-36); Lys34(Nf-(choloyl))-GLP-1(7-36);

Gly⁸Arg^{26,34}Lys³⁶(N^{*}-(7-deoxycholoyl))-GLP-1(7-39);

Lys²⁶(N^{*}-(choloyi))-GLP-1(7-39); Lys34(N*-(choloyl))-GLP-1(7-39);

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Gly⁸Lys²⁸(N^s-(lithocholoyl))-GLP-1(7-37); Giy⁸Lys³⁴(N^e-(lithocholoyl))-GLP-1(7-37); Gty⁸Lys^{26,34}-bis(N*-(lithocholoyl))-GLP-1(7-37); Arg²⁶Lys³⁴(N^e-(lithocholoyl))-GLP-1(7-37); Glv⁸Arg²⁶Lys³⁴(N^{*}-(choloyi))-GLP-1(7-38); Lys²⁶(N*-(choloyl))Arg³⁴-GLP-1(7-38); 'Gly⁸Lys²⁶(N*-(choioyl))Arg³⁴-GLP-1(7-38); Arg^{26,34}Lys³⁶(N*-(choloyl))-GLP-1(7-38); Arg^{26,34}Lys³⁸(N^{*}-(choloyi))-GLP-1(7-38); Gly8Arg26,54Lys36(Ne-(choloyi))-GLP-1(7-38); Lys²⁶(N^{*}-(lithocholoyl))-GLP-1(7-38); Lys³⁴(N^e-(lithocholoyl))-GLP-1(7-38); Lys^{26,34}-bis(N^e-(lithocholoyl))-GLP-1(7-38); Gly⁸Lys²⁶(N^ε-(lithocholoyl))-GLP-1(7-38); Gly⁸Lys³⁴(N^{*}-(lithocholoyl))-GLP-1(7-38); Gly⁸Lys^{26,34}-bis(N^e-(lithocholoyl))-GLP-1(7-38); Arg²⁶Lys³⁴(N^{*}-(lithocholoyl))-GLP-1(7-38); Gly⁸Arg²⁶Lys³⁴(N^s-(choloyl))-GLP-1(7-39); Lys²⁶(N^e-(choloyl))Arg³⁴-GLP-1(7-39); Gly⁸Lys²⁶(N^c-(choloyi))Arg³⁴-GLP-1(7-39); Arg^{26,34}Lys³⁶(N^s-(choloyl))-GLP-1(7-39); Gly8Arg26,34Lys36(Nt-(choloyl))-GLP-1(7-39); Lys²⁶(N*-(lithocholoyl))-GLP-1(7-39); Lys³⁴(N*-(lithocholoyi))-GLP-1(7-39); Lys^{26,34}-bis(N^e-(lithocholoyl))-GLP-1(7-39); Gly⁸Lys²⁶(N⁴-(lithocholoyl))-GLP-1(7-39); Gly⁸Lys³⁴(N^c-(lithocholoyl))-GLP-1(7-39); Gly⁸Lys^{26,34}-bis(N^e-(lithocholoyl))-GLP-1(7-39); Arg²⁶Lys³⁴(N^s-(lithocholoyl))-GLP-1(7-39); Arg²⁶Lys³⁴(N^{*}-(lithocholoyl))-GLP-1(7-37); Lys²⁶(N*-(lithocholoyl))-GLP-1(7-36); Lys³⁴(N^{*}-(lithocholoyi))-GLP-1(7-36); Lys^{26,34}-bis(N^s-(lithocholoyI))-GLP-1(7-36);

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Arg^{26,34}Lys³⁶(N^{*}-(lithocholoyl))-GLP-1(7-37);

Arg^{26,34}Lys³⁸(N^s-(lithocholoyi))-GLP-1(7-37); Gly⁸Arg^{28,34}Lys³⁶(N^s-(lithocholoyi))-GLP-1(7-37); Gly⁸Arg²⁶Lys³⁴(N^s-(lithocholoyi))-GLP-1(7-38); Lys²⁶(N^s-(lithocholoyi))Arg³⁴-GLP-1(7-38);

Glv⁸Lvs²⁶(N^{*}-(lithocholoyl))Arg³⁴-GLP-1(7-38);

 $Arg^{26,34}Lys^{36}(N^{e}-(lithocholoyl))-GLP-1(7-38);$ $Arg^{26,34}Lys^{38}(N^{e}-(lithocholoyl))-GLP-1(7-38);$ $Gly^{6}Arg^{26,34}Lys^{36}(N^{e}-(lithocholoyl))-GLP-1(7-38);$ $Gly^{8}Arg^{26}Lys^{34}(N^{e}-(lithocholoyl))-GLP-1(7-39);$

Lys²⁶(N^c-(lithocholoyl))Arg³⁴-GLP-1(7-39);

Gly⁸Lys²⁶(N^{*}-(lithocholoyl))Arg³⁴-GLP-1(7-39); Arg^{28,34}Lys³⁶(N^{*}-(lithocholoyl))-GLP-1(7-39); and Gly⁸Arg^{26,34}Lys³⁶(N^{*}-(lithocholoyl))-GLP-1(7-39).

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30 3. A derivative of an analog of GLP-1(7-36), GLP-1(7-37), GLP-1(7-38), or GLP-1(7-39), comprising the substitution of Ala at position 8 with Gly, Ser, Thr, Leu, Ile, Val, Glu, Asp, or Lys, wherein the derivative is optionally in the form of (a) a C-1-6-ester thereof, (b) amide, C-1-6-alkylamide, or C-1-6-dialkylamide thereof and/or (c) a pharmaceutically acceptable salt thereof, provided that

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A. the derivative of the GLP-1 analog contains only one or two Lys,

- B. the ε -amino group of one or both Lys is substituted with a lipophilic substituent optionally via a spacer.
- C. the total number of different amino acids between the derivative of the GLP-1 analog and the corresponding native form of GLP-1 does not exceed six,
- D. the derivative of an analog of GLP-1(7-36), GLP-1(7-37), GLP-1(7-38), or GLP-1(7-39), is not selected from:

Gly⁸Arg^{26,34}Lys³⁶(N^c-tetradecanoyl)-GLP-1(7-37),

- Gly⁸Lys²⁵(N^s-tetradecanoyl)-GLP-1(7-37);
- Gly⁸Lys³⁴(N*-tetradecanoyl)-GLP-1(7-37);
 Gly⁸Lys^{26,34}-bis(N*-tetradecanoyl)-GLP-1(7-37);
 Gly⁸Lys²⁶(N*-tetradecanoyl)-GLP-1(7-38);
 Gly⁸Lys³⁴(N*-tetradecanoyl)-GLP-1(7-38);
 Gly⁸Lys^{26,34}-bis(N*-tetradecanoyl)-GLP-1(7-38);
- Gly⁸Lys²⁶(N^{*}-tetradecanoyl)-GLP-1(7-39);
 Gly⁸Lys³⁴(N^{*}-tetradecanoyl)-GLP-1(7-39);
 Gly⁸Lys^{26,34}-bis(N^{*}-tetradecanoyl)-GLP-1(7-39);
 Gly⁸Lys²⁶(N^{*}-tetradecanoyl)-GLP-1(7-36);
 Gly⁸Lys³⁴(N^{*}-tetradecanoyl)-GLP-1(7-36);
- Gly⁸Lys^{26,34}-bis(N^{*}-tetradecanoyl)-GLP-1(7-36);
 Gly⁸Lys²⁶(N^{*}-tetradecanoyl)-GLP-1(7-36)amide;
 Gly⁸Lys³⁴(N^{*}-tetradecanoyl)-GLP-1(7-36)amide;
 Gly⁸Lys^{26,34}-bis(N^{*}-tetradecanoyl)-GLP-1(7-36)amide;
 Gly⁸Arg²⁶Lys³⁴(N^{*}-tetradecanoyl)-GLP-1(7-37);
- Gly⁸Lys²⁶(N^s-tetradecanoyl)Arg³⁴-GLP-1(7-37);
 Gly⁸Arg^{26,34}Lys³⁶(N^s-tetradecanoyl)-GLP-1(7-37);
 Gly⁸Arg²⁶Lys³⁴(N^s-tetradecanoyl)-GLP-1(7-38);
 Gly⁸Lys²⁶(N^s-tetradecanoyl)Arg³⁴-GLP-1(7-38);
 Gly⁸Arg^{26,34}Lys³⁶(N^s-tetradecanoyl)-GLP-1(7-38);
- Gly⁸Arg²⁶Lys³⁴(N^s-tetradecanoyl)-GLP-1(7-39);
 Gly⁸Lys²⁶(N^s-tetradecanoyl)Arg³⁴-GLP-1(7-39);
 Gly⁸Arg^{26,34}Lys³⁶(N^s-tetradecanoyl)-GLP-1(7-39);
 Gly⁸Lys²⁶(N^s-(ω-carboxynonadecanoyl))-GLP-1(7-37);

 $\label{eq:Giy} Giy^8Lys^{34}(N^{\epsilon}-(\omega\mbox{-}carboxynonadecanoyl))-GLP-1(7-37); \\ Giy^8Lys^{26,34}\mbox{-}bis(N^{\epsilon}-(\omega\mbox{-}carboxynonadecanoyl))-GLP-1(7-38); \\ Giy^8Lys^{34}(N^{\epsilon}-(\omega\mbox{-}carboxynonadecanoyl))-GLP-1(7-38); \\ Giy^8Lys^{26,34}\mbox{-}bis(N^{\epsilon}-(\omega\mbox{-}carboxynonadecanoyl))-GLP-1(7-38); \\ Giy^8Lys^{26}(N^{\epsilon}-(\omega\mbox{-}carboxynonadecanoyl))-GLP-1(7-39); \\ Giy^8Lys^{26}(N^{\epsilon}-(\omega\mbox{-}carboxynonadecanoyl))-GLP-1(7-39); \\ Giy^8Lys^{26,34}\mbox{-}bis(N^{\epsilon}-(\omega\mbox{-}carboxynonadecanoyl))-GLP-1(7-39); \\ Giy^8Lys^{26,34}\mbox{-}bis(N^{\epsilon}-(\omega\mbox{-}carboxynonadecanoyl))-GLP-1(7-39); \\ Giy^8Lys^{26}(N^{\epsilon}-(\omega\mbox{-}carboxynonadecanoyl))-GLP-1(7-36); \\ \\ \end{array}$

- Gly⁸Lys³⁴(N^ε-(ω-carboxynonadecanoyl))-GLP-1(7-36);
 Gly⁸Lys^{26,34}-bis(N^ε-(ω-carboxynonadecanoyl))-GLP-1(7-36);
 Gly⁸Lys²⁶(N^ε-(ω-carboxynonadecanoyl))-GLP-1(7-36)amide;
 Gly⁸Lys³⁴(N^ε-(ω-carboxynonadecanoyl))-GLP-1(7-36)amide;
 Gly⁸Lys^{26,34}-bis(N^ε-(ω-carboxynonadecanoyl))-GLP-1(7-36)amide;
- Gly⁸Arg²⁸Lys³⁴(N^ε-(ω-carboxynonadecanoyl))-GLP-1(7-37);
 Gly⁸Lys²⁶(N^ε-(ω-carboxynonadecanoyl))Arg³⁴-GLP-1(7-37);
 Gly⁸Arg^{28,34}Lys³⁶(N^ε-(ω-carboxynonadecanoyl))-GLP-1(7-37);
 Gly⁸Arg²⁶Lys³⁴(N^ε-(ω-carboxynonadecanoyl))-GLP-1(7-38);
 Gly⁸Lys²⁶(N^ε-(ω-carboxynonadecanoyl))Arg³⁴-GLP-1(7-38);
- 20 Gly⁸Arg^{26,34}Lys³⁶(N^e-(ω -carboxynonadecanoyl))-GLP-1(7-38); Gly⁸Arg²⁶Lys³⁴(N^e-(ω -carboxynonadecanoyl))-GLP-1(7-39); Gly⁸Lys²⁶(N^e-(ω -carboxynonadecanoyl))Arg³⁴-GLP-1(7-39); Gly⁸Arg^{26,34}Lys³⁶(N^e-(ω -carboxynonadecanoyl))-GLP-1(7-39); Gly⁸Lys²⁶(N^e-(7-deoxycholoyl))-GLP-1(7-37);
- Gly⁸Lys³⁴(N^ε-(7-deoxycholoyl))-GLP-1(7-37);
 Gly⁸Lys^{26,34}-bis(N^ε-(7-deoxycholoyl))-GLP-1(7-37);
 Gly⁸Lys²⁶(N^ε-(7-deoxycholoyl))-GLP-1(7-38);
 Gly⁸Lys³⁴(N^ε-(7-deoxycholoyl))-GLP-1(7-38);
 Gly⁸Lys^{26,34}-bis(N^ε-(7-deoxycholoyl))-GLP-1(7-38);
- Gly⁸Lys²⁶(N^{*}-(7-deoxycholoyl))-GLP-1(7-39);
 Gly⁸Lys³⁴(N^{*}-(7-deoxycholoyl))-GLP-1(7-39);
 Gly⁸Lys^{26,34}-bis(N^{*}-(7-deoxycholoyl))-GLP-1(7-39);
 Gly⁸Lys²⁶(N^{*}-(7-deoxycholoyl))-GLP-1(7-36);

Gly⁸Arg²⁶Lys³⁴(N^e-(choloyl))-GLP-1(7-37); 30 Gly⁸Lys²⁶(N⁴-(choloyl))Arg³⁴-GLP-1(7-37); Gly⁸Arg^{26,34}Lys³⁶(N^{*}-(choloyl))-GLP-1(7-37); Gly⁸Lys²⁶(N^{*}-(lithocholoyl))-GLP-1(7-37);

- Gly⁸Lys³⁴(N⁴-(choloyi))-GLP-1(7-36); 25 Gly⁸Lys^{26,34}-bis(N⁶-(choloyl))-GLP-1(7-36); Gly⁸Lys²⁶(N'-(choloyl))-GLP-1(7-36)amide; Gly⁸Lys³⁴(N⁴-(choloyl))-GLP-1(7-36)amide; Gly⁸Lys^{26,34}-bis(N^{*}-(choloyl))-GLP-1(7-36)amide;
- Gly⁸Arg^{26,34}Lys³⁶(N[€]-(7-deoxycholoyi))-GLP-1(7-39); 20 Gly⁸Lys²⁶(N^e-(choloyl))-GLP-1(7-39); Gly⁸Lys³⁴(N⁴-(choloyl))-GLP-1(7-39); Gly⁸Lys^{26,34}-bis(N^e-(choloyl))-GLP-1(7-39); Gly⁸Lys²⁶(N^e-(choloyl))-GLP-1(7-36);
- Gly⁸Lys²⁸(N^{*}-(choloy!))-GLP-1(7-38); 15 Gly⁸Lys³⁴(N^c-(choloyl))-GLP-1(7-38); Gly⁸Lys^{26,34}-bis(N*-(choloyl))-GLP-1(7-38); Gly⁸Arg²⁸Lys³⁴(N^e-(7-deoxycholoyl))-GLP-1(7-39); Gly⁸Lys²⁶(N⁴-(7-deoxycholoyl))Arg³⁴-GLP-1(7-39);
- Gly⁸Lys³⁴(N^c-(choloyl))-GLP-1(7-37); 10 Glv⁸Lys^{26,34}-bis(N^e-(choloyl))-GLP-1(7-37); Gly⁸Arg²⁶Lys³⁴(N^{*}-(7-deoxycholoyl))-GLP-1(7-38); Gly⁸Lys²⁶(N^e-(7-deoxycholoyl))Arg³⁴-GLP-1(7-38); Giv⁸Arg^{26,34}Lys³⁶(N^e-(7-deoxycholoy!))-GLP-1(7-38);
- Gly⁸Lys²⁸(N^{*}-(7-deoxycholoyl))-GLP-1(7-36)amide; Gly⁸Lys³⁴(N^s-(7-deoxycholoyl))-GLP-1(7-36)amide; Gly^aLys^{26,34}-bis(N^s-(7-deoxycholoyl))-GLP-1(7-36)amide; Gly⁸Arg²⁶Lys³⁴(N^e-(7-deoxycholoyi))-GLP-1(7-37); Gly⁸Lys²⁸(N^{*}-(7-deoxycholoy!))Arg³⁴-GLP-1(7-37); Gly⁸Arg^{26,34}Lys³⁵(N^e-(7-deoxycholoyl))-GLP-1(7-37); Gly⁸Lys²⁶(N⁴-(choloyl))-GLP-1(7-37);

Gly⁸Lys³⁴(N^{*}-(7-deoxycholoyl))-GLP-1(7-36);

Gly⁸Lys^{26,34}-bis(N^e-(7-deoxycholoyl))-GLP-1(7-36);

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Gly⁸Arg²⁵Lys³⁴(N^e-(choloyl))-GLP-1(7-39);
Gly⁸Lys²⁶(N^e-(choloyl))Arg³⁴-GLP-1(7-39);
Gly⁸Arg^{25,34}Lys³⁶(N^e-(choloyl))-GLP-1(7-39);
Gly⁸Lys²⁶(N^e-(lithocholoyl))-GLP-1(7-39);
Gly⁸Lys^{26,34}-bis(N^e-(lithocholoyl))-GLP-1(7-39);
Gly⁸Lys²⁶(N^e-(lithocholoyl))-GLP-1(7-36);
Gly⁸Lys^{26,34}-bis(N^e-(lithocholoyl))-GLP-1(7-36);
Gly⁸Lys²⁶(N^e-(lithocholoyl))-GLP-1(7-36);
Gly⁸Lys²⁶(N^e-(lithocholoyl))-GLP-1(7-36);
Gly⁸Lys²⁶(N^e-(lithocholoyl))-GLP-1(7-36);
Gly⁸Lys²⁶(N^e-(lithocholoyl))-GLP-1(7-36);
Gly⁸Lys²⁶(N^e-(lithocholoyl))-GLP-1(7-36);

Gly⁸Lys³⁴(N^{*}-(lithocholoy!))-GLP-1(7-37);

Gly⁸Arg²⁶Lys³⁴(N^{*}-(choloyl))-GLP-1(7-38); Gly⁸Lys²⁶(N^{*}-(choloyl))Arg³⁴-GLP-1(7-38); Gly⁸Arg^{26,34}Lys³⁶(N^{*}-(choloyl))-GLP-1(7-38);

Gly⁸Lys²⁸(N^{*}-(lithocholoyl))-GLP-1(7-38); Gly⁸Lys³⁴(N^{*}-(lithocholoyl))-GLP-1(7-38);

Glv⁸Lvs^{26,34}-bis(N^{*}-(lithocholoyi))-GLP-1(7-38);

Glv⁸Lvs^{26,34}-bis(N^{*}-(lithocholoyl))-GLP-1(7-37);

20 Gly⁸Lys^{28,34}-bis(N^e-(lithocholoyl))-GLP-1(7-36)amide; Gly⁸Arg²⁶Lys³⁴(N^e-(lithocholoyl))-GLP-1(7-37); Gly⁸Lys²⁶(N^e-(lithocholoyl))Arg³⁴-GLP-1(7-37); Gly⁸Arg^{26,34}Lys³⁶(N^e-(lithocholoyl))-GLP-1(7-38);
25 Gly⁸Lys²⁶(N^e-(lithocholoyl))Arg³⁴-GLP-1(7-38); Gly⁸Arg^{26,34}Lys³⁶(N^e-(lithocholoyl))-GLP-1(7-38);

Gly⁸Arg^{26,34}Lys³⁶(N^s-(lithocholoyl))-GLP-1(7-38); Gly⁸Arg²⁶Lys³⁴(N^s-(lithocholoyl))-GLP-1(7-39); Gly⁸Lys²⁸(N^s-(lithocholoyl))Arg³⁴-GLP-1(7-39); and Gly⁸Arg^{26,34}Lys³⁶(N^s-(lithocholoyl))-GLP-1(7-39).

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4. A derivative of an analog of GLP-1(7-36), GLP-1(7-37), GLP-1(7-38), or GLP-1(7-39), comprising the substitution of Ser at position 18 with Ala, Gly, Thr, Leu, Ile, Val, Glu, Asp, or Lys, wherein the derivative is optionally in the form of (a) a C-1-6-ester thereof, (b) amide, C-1-

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6-alkylamide, or C-1-6-dialkylamide thereof and/or (c) a pharmaceutically acceptable salt thereof, provided that

A. the derivative of the GLP-1 analog contains only one or two Lys,

- B. the ε -amino group of one or both Lys is substituted with a lipophilic substituent optionally via a spacer,
- C. the total number of different amino acids between the derivative of the GLP-1 analog and the corresponding native form of GLP-1 does not exceed six.
- A derivative of an analog of GLP-1(7-36), GLP-1(7-37), GLP-1(7-38), or GLP-1(7-39),
 comprising the substitution of Tyr at position 19 with Phe, Trp, Glu, Asp, or Lys, wherein the derivative is optionally in the form of (a) a C-1-6-ester thereof, (b) amide, C-1-6-alkylamide, or C-1-6-dialkylamide thereof and/or (c) a pharmaceutically acceptable salt thereof, provided that

A. the derivative of the GLP-1 analog contains only one or two Lys,

- B. the ε -amino group of one or both Lys is substituted with a lipophilic substituent optionally via a spacer,

C.

- optionally via a spacer, the total number of different amino acids between the derivative of the GLP-1
- analog and the corresponding native form of GLP-1 does not exceed six.
- A derivative of an analog of GLP-1(7-36), GLP-1(7-37), GLP-1(7-38), or GLP-1(7-39),
 comprising the substitution of Leu at position 20 with Ala, Gly, Ser, Thr, Leu, Ile, Val, Glu, Asp,
 or Lys, wherein the derivative is optionally in the form of (a) a C-1-6-ester thereof, (b) amide, C 1-6-alkylamide, or C-1-6-dialkylamide thereof and/or (c) a pharmaceutically acceptable salt the reof, provided that

A. the derivative of the GLP-1 analog contains only one or two Lys,

- B. the ε -amino group of one or both Lys is substituted with a lipophilic substituent optionally via a spacer.
- C. the total number of different amino acids between the derivative of the GLP-1 analog and the corresponding native form of GLP-1 does not exceed six.
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7. A derivative of an analog of GLP-1(7-36), GLP-1(7-37), GLP-1(7-38), or GLP-1(7-39), comprising the substitution of Glu at position 21 with Asp or Lys, wherein the derivative is optionally in the form of (a) a C-1-6-ester thereof, (b) amide, C-1-6-alkylamide, or C-1-6-dialkylamide thereof and/or (c) a pharmaceutically acceptable salt thereof, provided that

A. the derivative of the GLP-1 analog contains only one or two Lys,

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B. the ε -amino group of one or both Lys is substituted with a lipophilic substituent optionally via a spacer,

C. the total number of different amino acids between the derivative of the GLP-1 analog and the corresponding native form of GLP-1 does not exceed six.

- 8. A derivative of an analog of GLP-1(7-36), GLP-1(7-37), GLP-1(7-38), or GLP-1(7-39), comprising the substitution of Gly at position 22 with Ala, Ser, Thr, Leu, Ile, Val, Glu, Asp, or Lys, wherein the derivative is optionally in the form of (a) a C-1-6-ester thereof, (b) amide, C-1-6-alkylamide, or C-1-6-dialkylamide thereof and/or (c) a pharmaceutically acceptable salt thereof, provided that
 - A. the derivative of the GLP-1 analog contains only one or two Lys,
 - B. the ε -amino group of one or both Lys is substituted with a lipophilic substituent optionally via a spacer,
 - C. the total number of different amino acids between the derivative of the GLP-1 analog and the corresponding native form of GLP-1 does not exceed six
 - D. the derivative of an analog of GLP-1(7-36), GLP-1(7-37), GLP-1(7-38), or GLP-1(7-39), is not Glu^{22,23,30}Arg^{26,34}Lys³⁸(N^ε-(γ-glutamyl(N^α-tetradecanoyl)))-GLP-1(7-38)-OH.
- 9. A derivative of an analog of GLP-1(7-36), GLP-1(7-37), GLP-1(7-38), or GLP-1(7-39), comprising the substitution of GIn at position 23 with Asn, Arg, Glu, Asp, or Lys, wherein the derivative is optionally in the form of (a) a C-1-6-ester thereof, (b) amide, C-1-6-alkylamide, or C-1-6-dialkylamide thereof and/or (c) a pharmaceutically acceptable salt thereof, provided that

A. the derivative of the GLP-1 analog contains only one or two Lys,

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Β.

the ε -amino group of one or both Lys is substituted with a lipophilic substituent optionally via a spacer,

- C. the total number of different amino acids between the derivative of the GLP-1 analog and the corresponding native form of GLP-1 does not exceed six
- D. the derivative of an analog of GLP-1(7-36), GLP-1(7-37), GLP-1(7-38), or GLP-1(7-39), is not selected from:

Glu^{22,23,30}Arg^{26,34}Lys³⁸(N^ε-(γ-glutamyl(N^α-tetradecanoyl)))-GLP-1(7-38)-OH,

Glu^{23,26}Arg³⁴Lys³⁸(N^{*}-(γ -glutamyl(N^a-tetradecanoyl)))-GLP-1(7-38)-OH, and Arg^{18,23,28,30,34}Lys³⁸(N^{*}-hexadecanoyl)-GLP-1(7-38)-OH.

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10. A derivative of an analog of GLP-1(7-36), GLP-1(7-37), GLP-1(7-38), or GLP-1(7-39), comprising the substitution of Ala at position 24 with Gly, Ser, Thr, Leu, Ile, Val, Arg, Glu, Asp, or Lys, wherein the derivative is optionally in the form of (a) a C-1-6-ester thereof, (b) amide, C-1-6-alkylamide, or C-1-6-dialkylamide thereof and/or (c) a pharmaceutically acceptable salt the-

5 reof, provided that

- A. the derivative of the GLP-1 analog contains only one or two Lys,
- B. the ε -amino group of one or both Lys is substituted with a lipophilic substituent optionally via a spacer,
- C. the total number of different amino acids between the derivative of the GLP-1 analog and the corresponding native form of GLP-1 does not exceed six.

11. A derivative of an analog of GLP-1(7-36), GLP-1(7-37), GLP-1(7-38), or GLP-1(7-39), comprising the substitution of Ala at position 25 with Gly, Ser, Thr, Leu, Ile, Val, Glu, Asp, or Lys, wherein the derivative is optionally in the form of (a) a C-1-6-ester thereof, (b) amide, C-1-6-alkylamide, or C-1-6-dialkylamide thereof and/or (c) a pharmaceutically acceptable salt thereof, provided that

A. the derivative of the GLP-1 analog contains only one or two Lys,

B. the ε -amino group of one or both Lys is substituted with a lipophilic substituent optionally via a spacer.

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- C. the total number of different amino acids between the derivative of the GLP-1 analog and the corresponding native form of GLP-1 does not exceed six.
- A derivative of an analog of GLP-1(7-36), GLP-1(7-37), GLP-1(7-38), or GLP-1(7-39), comprising the substitution of Lys at position 26 with Arg, Gln, His, Glu, or Asp, wherein the derivative is optionally in the form of (a) a C-1-6-ester thereof, (b) amide, C-1-6-alkylamide, or C-1-6-dialkylamide thereof and/or (c) a pharmaceutically acceptable salt thereof, provided that
 - A. the derivative of the GLP-1 analog contains only one or two Lys,
 - B. the ϵ -amino group of one or both Lys is substituted with a lipophilic substituent optionally via a spacer,
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- C. the total number of different amino acids between the derivative of the GLP-1 analog and the corresponding native form of GLP-1 does not exceed six
 - D. the derivative of an analog of GLP-1(7-36), GLP-1(7-37), GLP-1(7-38), or GLP-1(7-39), is not selected from:

Gly⁸Arg^{26,34}Lys³⁶(N^{*}-tetradecanoyl)-GLP-1(7-37),

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Arg^{26,34}Lys³⁶ (N^t-tetradecanoyl)-GLP-1(7-37)-OH, Arg^{26,34}Lys³⁶(N^t-(ω-carboxynonadecanoyl))-GLP-1(7-36)-OH, Arg^{26,34}Lys³⁸(N^t-(ω-carboxynonadecanoyl))-GLP-1(7-38)-OH, Arg^{26,34}Lys³⁸ (N^t-(ω-carboxyheptadecanoyl))-GLP-1(7-37)-OH, Arg^{26,34}Lys³⁸(N^t-(ω-carboxyheptadecanoyl))-GLP-1(7-38)-OH, Arg^{26,34}Lys³⁶ (N^t-(ω-carboxyheptadecanoyl))-GLP-1(7-36)-OH, Arg^{26,34}Lys³⁸ (N^t-(ω-carboxyundecanoyl))-GLP-1(7-37)-OH, Arg^{26,34}Lys³⁸ (N^t-(ω-carboxyundecanoyl))-GLP-1(7-38)-OH, Arg^{26,34}Lys³⁸ (N^t-(ω-carboxyundecanoyl))-GLP-1(7-38)-OH, Arg^{26,34}Lys³⁸ (N^t-(ω-carboxyundecanoyl))-GLP-1(7-38)-OH,

- 10 $Arg^{26,34}Lys^{38}(N^{\epsilon}-(\omega-carboxyheptanoyl))-GLP-1(7-38)-OH,$ $Arg^{26,34}Lys^{36}(N^{\epsilon}-(\omega-carboxyheptanoyl))-GLP-1(7-37)-OH,$ $Arg^{26,34}Lys^{36}(N^{\epsilon}-(\omega-carboxyheptanoyl))-GLP-1(7-36)-OH,$ $Arg^{26,34}Lys^{36}(N^{\epsilon}-(\omega-carboxyheptanoyl))-GLP-1(7-36)-OH,$ $Glu^{22,23,30}Arg^{26,34}Lys^{38}(N^{\epsilon}-(\gamma-glutamyl(N^{\alpha}-tetradecanoyl)))-GLP-1(7-38)-OH,$
- 15 $Glu^{23,26}Arg^{34}Lys^{38}(N^{\epsilon}-(\gamma-glutamyl(N^{\alpha}-tetradecanoyl)))-GLP-1(7-38)-OH,$ $Arg^{26,34}Lys^{38}(N^{\epsilon}-(\omega-carboxypentadecanoyl))-GLP-1(7-38)-OH,$ $Arg^{26,34}Lys^{38}(N^{\epsilon}-(\gamma-glutamyl(N^{\alpha}-tetradecanoyl)))-GLP-1(7-38)-OH,$ $Arg^{26,34}Lys^{38}(N^{\epsilon}-(\omega-carboxypentadecanoyl)))-GLP-1(7-38)-OH,$ $Arg^{26,34}Lys^{38}(N^{\epsilon}-(\gamma-glutamyl(N^{\alpha}-hexadecanoyl)))-GLP-1(7-38)-OH,$
- Arg^{18,23,26,30,34}Lys³⁸(N^ε-hexadecanoyi)-GLP-1(7-38)-OH, Arg^{26,34}Lys³⁸(N^ε-(ω-carboxytridecanoyi))-GLP-1(7-38)-OH, Arg^{26,34}Lys³⁸(N^ε-(γ-glutamyl(N^ε-octadecanoyi)))-GLP-1(7-38)-OH, Arg²⁸Lys³⁴(N^ε-tetradecanoyi)-GLP-1(7-37); Arg²⁶Lys³⁴(N^ε-tetradecanoyi)-GLP-1(7-38);
- Arg²⁶Lys³⁴(N^s-tetradecanoyl)-GLP-1(7-39);
 Arg²⁶Lys³⁴(N^s-tetradecanoyl)-GLP-1(7-36);
 Arg²⁶Lys³⁴(N^s-tetradecanoyl)-GLP-1(7-36)amide;
 Gly⁸Arg²⁶Lys³⁴(N^s-tetradecanoyl)-GLP-1(7-37);
 Arg^{26,34}Lys³⁶(N^s-tetradecanoyl)-GLP-1(7-37);
- Gly⁸Arg^{26,34}Lys³⁶(N^s-tetradecanoyl)-GLP-1(7-37);
 Gly⁸Arg^{26,34}Lys³⁶(N^s-tetradecanoyl)-GLP-1(7-38);
 Arg^{26,34}Lys³⁶(N^s-tetradecanoyl)-GLP-1(7-38);
 Arg^{26,34}Lys³⁶(N^s-tetradecanoyl)-GLP-1(7-38);

Arg^{28,34}Lys³⁶(N*-(7-deoxycholoyl))-GLP-1(7-37);
Gly⁸Arg^{28,34}Lys³⁶(N*-(7-deoxycholoyl))-GLP-1(7-37);
Arg²⁶Lys³⁴(N*-(choloyl))-GLP-1(7-37);
Gly⁸Arg^{26,34}Lys³⁶(N*-(7-deoxycholoyl))-GLP-1(7-38);
Arg^{28,34}Lys³⁸(N*-(7-deoxycholoyl))-GLP-1(7-38);
Gly⁸Arg^{28,34}Lys³⁸(N*-(7-deoxycholoyl))-GLP-1(7-38);
Gly⁸Arg^{26,34}Lys³⁸(N*-(7-deoxycholoyl))-GLP-1(7-38);
Gly⁸Arg^{26,34}Lys³⁸(N*-(7-deoxycholoyl))-GLP-1(7-38);
Gly⁸Arg^{26,34}Lys³⁶(N*-(7-deoxycholoyl))-GLP-1(7-38);
Gly⁸Arg²⁶Lys³⁴(N*-(7-deoxycholoyl))-GLP-1(7-39);
Arg^{28,34}Lys³⁶(N*-(7-deoxycholoyl))-GLP-1(7-39);

- 20 Arg²⁶Lys³⁴(N^e-(7-deoxycholoyl))-GLP-1(7-39); Arg²⁶Lys³⁴(N^e-(7-deoxycholoyl))-GLP-1(7-36); Arg²⁶Lys³⁴(N^e-(7-deoxycholoyl))-GLP-1(7-36)amide; Gly⁸Arg²⁶Lys³⁴(N^e-(7-deoxycholoyl))-GLP-1(7-37); Arg^{26,34}Lys³⁶(N^e-(7-deoxycholoyl))-GLP-1(7-37);
- Arg²⁶Lys³⁴(N^ε-(ω-carboxynonadecanoyl))-GLP-1(7-39);

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 Gly⁸Arg²⁶Lys³⁴(N^ε-(ω-carboxynonadecanoyl))-GLP-1(7-39);

 Arg^{26,34}Lys³⁶(N^ε-(ω-carboxynonadecanoyl))-GLP-1(7-39);

 Gly⁸Arg^{26,34}Lys³⁸(N^ε-(ω-carboxynonadecanoyl))-GLP-1(7-39);

 Gly⁸Arg^{26,34}Lys³⁸(N^ε-(ω-carboxynonadecanoyl))-GLP-1(7-39);

 Arg²⁶Lys³⁴(N^ε-(7-deoxycholoyl))-GLP-1(7-37);

 Arg²⁶Lys³⁴(N^ε-(7-deoxycholoyl))-GLP-1(7-38);
- Arg Lys (N -(ω -carboxynonadecanoyi))-GLP-1(7-38); Arg^{26,34}Lys³⁶(N^{*}-(ω -carboxynonadecanoyi))-GLP-1(7-38); Arg^{26,34}Lys³⁶(N^{*}-(ω -carboxynonadecanoyi))-GLP-1(7-38); Gly⁸Arg^{26,34}Lys³⁸(N^{*}-(ω -carboxynonadecanoyi))-GLP-1(7-38); Arg²⁶Lys³⁴(N^{*}-(ω -carboxynonadecanoyi))-GLP-1(7-39);
- 5 Arg²⁶Lys³⁴(N^{*}-(ω-carboxynonadecanoyl))-GLP-1(7-37); Gly⁸Arg²⁶Lys³⁴(N^{*}-(ω-carboxynonadecanoyl))-GLP-1(7-37); Arg^{28,34}Lys³⁶(N^{*}-(ω-carboxynonadecanoyl))-GLP-1(7-37); Gly⁸Arg^{26,34}Lys³⁶(N^{*}-(ω-carboxynonadecanoyl))-GLP-1(7-37); Arg²⁸Lys³⁴(N^{*}-(ω-carboxynonadecanoyl))-GLP-1(7-38);
- Gly⁸Arg^{26,34}Lys³⁸(N^s-tetradecanoyl)-GLP-1(7-38); Gly⁸Arg²⁶Lys³⁴(N^s-tetradecanoyl)-GLP-1(7-39); Arg^{28,34}Lys³⁶(N^s-tetradecanoyl)-GLP-1(7-39); Gly⁸Arg^{28,34}Lys³⁸(N^s-tetradecanoyl)-GLP-1(7-39);

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Arg^{26,34}Lys³⁶(N^e-(lithocholoyl))-GLP-1(7-38); Arg^{26,34}Lys³⁶(N^{*}-(lithocholoyl))-GLP-1(7-38); Gly⁸Arg^{26,34}Lys³⁶(N^{*}-(lithocholoyl))-GLP-1(7-38); Gly⁸Arg²⁶Lys³⁴(N^{*}-(lithocholoyi))-GLP-1(7-39); 30 Arg^{26,34}Lys³⁶(N^{*}-(lithocholoyI))-GLP-1(7-39); and Gly⁸Arg^{28,34}Lys³⁶(N^{*}-(lithocholoyl))-GLP-1(7-39).

Gly⁸Arg²⁶Lys³⁴(N^{*}-(lithocholoyl))-GLP-1(7-38);

- Arg²⁶Lys³⁴(N^e-(lithocholoyl))-GLP-1(7-37); Arg²⁶Lys³⁴(N^e-(lithocholoyl))-GLP-1(7-36); 20 Arg²⁶Lys³⁴(N^e-(lithocholoyl))-GLP-1(7-36)amide; Gly⁸Arg²⁶Lys³⁴(N⁴-(lithocholoyl))-GLP-1(7-37); Arg^{26,34}Lys³⁶(N^e-(lithocholoyl))-GLP-1(7-37); Arg^{26,34}Lys³⁸(N^e-(lithocholoyl))-GLP-1(7-37); Gly⁸Arg^{26,34}Lys³⁶(N^{*}-(lithocholoyl))-GLP-1(7-37); 25
- Gly⁸Arg²⁶Lys³⁴(N^e-(choloyl))-GLP-1(7-39); 15 Arg26,34 Lys36 (Ne-(choloyl))-GLP-1(7-39); Gly⁸Arg^{26,34}Lys³⁶(N⁴-(choloyl))-GLP-1(7-39); Arg²⁶Lys³⁴(N^s-(lithocholoyl))-GLP-1(7-39);
- Gly⁸Arg²⁶Lys³⁴(N^e-(choloyl))-GLP-1(7-38); 10 Arg^{26,34}Lys³⁶(N⁴-(choloyl))-GLP-1(7-38); Arg^{26,34}Lys³⁸(N^e-(choloyl))-GLP-1(7-38); Giy⁸Arg^{26,34}Lys³⁶(N^{*}-(choloyl))-GLP-1(7-38); Arg²⁶Lys³⁴(N^{*}-(lithocholoyl))-GLP-1(7-38);
- Arg²⁶Lys³⁴(N*-(choloyl))-GLP-1(7-36)amide; Gly^sArg²⁶Lys³⁴(N^c-(choloyi))-GLP-1(7-37); Arg28, Lys34 (Nº-(octanoyl)) GLP-1 (7-37)-OH; Arg26,34 Lys36 (N*-(choloyi))-GLP-1(7-37); Gly⁸Arg^{26,34}Lys³⁶(N^e-(choloyl))-GLP-1(7-37); Arg²⁶Lys³⁴(N^s-(lithocholoyl))-GLP-1(7-37);

Arg²⁶Lys³⁴(N^r-(choloyl))-GLP-1(7-39); Arg²⁶Lys³⁴(N^{*}-(choloyl))-GLP-1(7-36);

Gly⁸Arg^{26,34}Lys³⁶(N^e-(7-deoxycholoyi))-GLP-1(7-39);

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13. A derivative of the preceding claim wherein Lys at position 26 is substituted with Arg.

- 14. A derivative of an analog of GLP-1(7-36), GLP-1(7-37), GLP-1(7-38), or GLP-1(7-39), comprising the substitution of Glu at position 27 with Asp or Lys, wherein the derivative is optionally in the form of (a) a C-1-6-ester thereof, (b) amide, C-1-6-alkylamide, or C-1-6-
- dialkylamide thereof and/or (c) a pharmaceutically acceptable salt thereof, provided that
 - A. the derivative of the GLP-1 analog contains only one or two Lys,
 - B. the ε-amino group of one or both Lys is substituted with a lipophilic substituent optionally via a spacer,
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C. the total number of different amino acids between the derivative of the GLP-1 analog and the corresponding native form of GLP-1 does not exceed six.

15. A derivative of an analog of GLP-1(7-36), GLP-1(7-37), GLP-1(7-38), or GLP-1(7-39), comprising the substitution of Ala at position 30 with Gly, Ser, Thr, Leu, Ile, Val, Glu, Asp, or
15 Lys, wherein the derivative is optionally in the form of (a) a C-1-6-ester thereof, (b) amide, C-1-6-alkylamide, or C-1-6-dialkylamide thereof and/or (c) a pharmaceutically acceptable salt thereof, provided that

A. the derivative of the GLP-1 analog contains only one or two Lys,

- B. the ε -amino group of one or both Lys is substituted with a lipophilic substituent optionally via a spacer,
- C. the total number of different amino acids between the derivative of the GLP-1 analog and the corresponding native form of GLP-1 does not exceed six,
- D. the derivative of an analog of GLP-1(7-36), GLP-1(7-37), GLP-1(7-38), or GLP-1(7-39), is not Glu^{22,23,30}Arg^{26,34}Lys³⁸(N^ε-(γ-glutamyl(N^α-tetradecanoyl)))-GLP-1(7-38)-OH.

16. A derivative of an analog of GLP-1(7-36), GLP-1(7-37), GLP-1(7-38), or GLP-1(7-39), comprising the substitution of Trp at position 31 with Phe, Tyr, Glu, Asp, or Lys, wherein the derivative is optionally in the form of (a) a C-1-6-ester thereof, (b) amide, C-1-6-alkylamide, or C-1-6-dialkylamide thereof and/or (c) a pharmaceutically acceptable salt thereof, provided that

- A. the derivative of the GLP-1 analog contains only one or two Lys,
 - B. the ε -amino group of one or both Lys is substituted with a lipophilic substituent optionally via a spacer.

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B.

- C. the total number of different amino acids between the derivative of the GLP-1 analog and the corresponding native form of GLP-1 does not exceed six.
- 17. A derivative of an analog of GLP-1(7-36), GLP-1(7-37), GLP-1(7-38), or GLP-1(7-39), comprising the substitution of Leu at position 32 with Gly, Ala, Ser, Thr, Ile, Val, Glu, Asp, or Lys, wherein the derivative is optionally in the form of (a) a C-1-6-ester thereof, (b) amide, C-1-6-alkylamide, or C-1-6-dialkylamide thereof and/or (c) a pharmaceutically acceptable salt thereof, provided that

A. the derivative of the GLP-1 analog contains only one or two Lys,

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- the ϵ -amino group of one or both Lys is substituted with a lipophilic substituent optionally via a spacer,
- C. the total number of different amino acids between the derivative of the GLP-1 analog and the corresponding native form of GLP-1 does not exceed six.
- 15 18. A derivative of an analog of GLP-1(7-36), GLP-1(7-37), GLP-1(7-38), or GLP-1(7-39), comprising the substitution of Val at position 33 with Gly, Ala, Ser, Thr, Leu, Ile, Glu, Asp, or Lys, wherein the derivative is optionally in the form of (a) a C-1-6-ester thereof, (b) amide, C-1-6-alkylamide, or C-1-6-dialkylamide thereof and/or (c) a pharmaceutically acceptable salt thereof, provided that
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A. the derivative of the GLP-1 analog contains only one or two Lys,

- B. the ε -amino group of one or both Lys is substituted with a lipophilic substituent optionally via a spacer,
- C. the total number of different amino acids between the derivative of the GLP-1 analog and the corresponding native form of GLP-1 does not exceed six.
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19. A derivative of an analog of GLP-1(7-36), GLP-1(7-37), GLP-1(7-38), or GLP-1(7-39), comprising the substitution of Lys at position 34 with Arg, Glu, or Asp, wherein the derivative is optionally in the form of (a) a C-1-6-ester thereof, (b) amide, C-1-6-alkylamide, or C-1-6-dialkylamide thereof and/or (c) a pharmaceutically acceptable salt thereof, provided that

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Α.

the derivative of the GLP-1 analog contains only one or two Lys,

- B. the ε -amino group of one or both Lys is substituted with a lipophilic substituent optionally via a spacer,
- C. the total number of different amino acids between the derivative of the GLP-1 analog and the corresponding native form of GLP-1 does not exceed six,

Arg³⁴Lys²⁶ (N^ε-(ω-carboxypentadecanoyl))-GLP-1(7-37)-OH, Arg^{26,34}Lys³⁶ (N^e-(ω-carboxyheptanoyl))-GLP-1(7-36)-OH, Ara³⁴Lys²⁶(N^e-lithocholyl)-GLP-1(7-37)-OH, Glu^{22,23,30}Arg^{26,34}Lys³⁸(N^ε-(γ-glutamyl(N^e-tetradecanoyl)))-GLP-1(7-38)-OH, Glu^{23,26}Arg³⁴Lys³⁸(N^ε-(γ-glutamyl(N^α-tetradecanoyl)))-GLP-1(7-38)-OH, 25 Arg^{26,34}Lys³⁸(N^e-(ω-carboxypentadecanoyl))-GLP-1(7-38)-OH, Arg³⁴Lys²⁶(N^e-(y-glutamyl(N^e-hexadecanoyl)))-GLP-1(7-37)-OH, Arg^{26,34}Lys³⁸(N^ε-(γ-glutamyl(N^α-tetradecanoyl)))-GLP-1(7-38)-OH, Arg^{26,34}Lys³⁸(N^{*}-(w-carboxypentadecanoyl))-GLP-1(7-38)-OH, Arg^{26.34}Lys³⁸(N^ε-(γ-glutamyl(N^α-hexadecanoyl)))-GLP-1(7-38)-OH, 30 Arg18,23,28,30,34 Lys38 (N*-hexadecanoyl)-GLP-1(7-38)-OH, Arg^{28,34}Lys³⁸(N^{*}-(ω-carboxytridecanoyl))-GLP-1(7-38)-OH, Arg³⁴Lys²⁶(N^ε-(γ-glutamyl(N^e-tetradecanoyl)))-GLP-1(7-37)-OH, Arg^{26,34}Lys³⁸(N⁴-(γ-glutamyl(N^α-octadecanoyl)))-GLP-1(7-38)-OH,

- Arg^{26,34}Lys³⁸(N^c-(w-carboxyheptanoyl))-GLP-1(7-38)-OH, Arg^{26,34}Lys³⁶ (N^t-(ω-carboxyheptanoyl))-GLP-1(7-37)-OH, Arg^{26,34}Lys³⁶ (N⁴-(ω-carboxyheptanoyl))-GLP-1(7-36)-OH, 20
- Arg^{26,34}Lys³⁶(N^s-(ω-carboxyheptadecanoyl))-GLP-1(7-38)-OH, Arg^{26,34}Lys³⁸ (N^s-(ω-carboxyheptadecanoyl))-GLP-1(7-36)-OH, Arg^{26,34}Lys³⁶ (N^s-(ω--carboxyundecanoyl))-GLP-1(7-37)-OH, Arg^{26,34}Lys³⁰(N^s-(ω-carboxyundecanoyl))-GLP-1(7-38)-OH, Arg^{26,34}Lys³⁶ (N⁴-(ω-carboxyundecanoyl))-GLP-1(7-36)-OH, 15 Arg³⁴Lys²⁶ (N^s-(ω-carboxyundecanoyl))-GLP-1(7-37)-OH, Arg³⁴Lys²⁶ (N^L-(w-carboxyheptanoyl))-GLP-1(7-37)-OH,
- Gly⁸Arg^{26,34}Lys³⁶(N^s-tetradecanoyl)-GLP-1(7-37), Arg^{26,34}Lys³⁶ (N^e-tetradecanoyl)-GLP-1(7-37)-OH, Arg^{28,34}Lys³⁶(N^s-(ω-carboxynonadecanoyl))-GLP-1(7-36)-OH, Arg^{26,34}Lys³⁸(N^s-(ω-carboxynonadecanoyl))-GLP-1(7-38)-OH, Arg³⁴Lys²⁶ (N^{*}-(ω-carboxynonadecanoyl))-GLP-1(7-37)-OH, Arg³⁴Lys²⁶ (N⁴-(ω--carboxyheptadecanoyl))-GLP-1(7-37)-OH, Arg^{28,34}Lys³⁶ (N^{*}-(ω-carboxyheptadecanoyl))-GLP-1(7-37)-OH,

Lys²⁶(N^e-tetradecanoyl)Arg³⁴-GLP-1(7-37),

the derivative of an analog of GLP-1(7-36), GLP-1(7-37), GLP-1(7-38), or GLP-Ď. 1(7-39), is not selected from:

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Gly⁸Arg^{26,34}Lys³⁸(N^e-(7-deoxycholoyl))-GLP-1(7-38); Lys²⁶(N^e-(7-deoxycholoyl))Arg³⁴-GLP-1(7-39); Gly⁸Lys²⁶(N^e-(7-deoxycholoyl))Arg³⁴-GLP-1(7-39); Arg^{26,34}Lys³⁶(N^e-(7-deoxycholoyl))-GLP-1(7-39); Gly⁸Arg^{26,34}Lys³⁶(N^e-(7-deoxycholoyl))-GLP-1(7-39);

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- Gly⁸Arg^{26,34}Lys³⁶(N^s-(7-deoxycholoyi))-GLP-1(7-37); Lys²⁶(N^s-(7-deoxycholoyi))Arg³⁴-GLP-1(7-38); Gly⁸Lys²⁶(N^s-(7-deoxycholoyi))Arg³⁴-GLP-1(7-38); Arg^{26,34}Lys³⁶(N^s-(7-deoxycholoyi))-GLP-1(7-38); Arg^{26,34}Lys³⁸(N^s-(7-deoxycholoyi))-GLP-1(7-38); Ol ⁸Arg^{26,34}Lys³⁸(N^s-(7-deoxycholoyi))-GLP-1(7-38);
- Giy⁸Lys²⁶(N^ε-(ω-carboxynonadecanoyl))Arg³⁴-GLP-1(7-39);
 Arg^{26,34}Lys³⁶(N^ε-(ω-carboxynonadecanoyl))-GLP-1(7-39);
 Giy⁸Arg^{26,34}Lys³⁶(N^ε-(ω-carboxynonadecanoyl))-GLP-1(7-39);
 Arg^{26,34}Lys³⁶(N^ε-(7-deoxycholoyl))-GLP-1(7-37);
 Giy⁸Arg^{26,34}Lys³⁶(N^ε-(7-deoxycholoyl))-GLP-1(7-37);
- Gly⁸Lys²⁶(N^ε-(ω-carboxynonadecanoyl))Arg³⁴-GLP-1(7-38);
 Arg^{26,34}Lys³⁶(N^ε-(ω-carboxynonadecanoyl))-GLP-1(7-38);
 Arg^{26,34}Lys³⁸(N^ε-(ω-carboxynonadecanoyl))-GLP-1(7-38);
 Gly⁸Arg^{26,34}Lys³⁶(N^ε-(ω-carboxynonadecanoyl))-GLP-1(7-38);
 Lys²⁶(N^ε-(ω-carboxynonadecanoyl))Arg³⁴-GLP-1(7-39);
- Arg^{28,34}Lys³⁶(N^ε-tetradecanoyl)-GLP-1(7-39); Gly⁸Arg^{26,34}Lys³⁶(N^ε-tetradecanoyl)-GLP-1(7-39); Arg^{26,34}Lys³⁶(N^ε-(ω-carboxynonadecanoyl))-GLP-1(7-37); Gly⁸Arg^{26,34}Lys³⁶(N^ε-(ω-carboxynonadecanoyl))-GLP-1(7-37); Lys²⁶(N^ε-(ω-carboxynonadecanoyl))Arg³⁴-GLP-1(7-38);
- Gly⁸Lys²⁶(N^e-tetradecanoyl)Arg³⁴-GLP-1(7-38);
 Arg^{26,34}Lys³⁶(N^e-tetradecanoyl)-GLP-1(7-38);
 Arg^{26,34}Lys³⁸(N^e-tetradecanoyl)-GLP-1(7-38);
 Gly⁸Arg^{26,34}Lys³⁸(N^e-tetradecanoyl)-GLP-1(7-38);
 Lys²⁶(N^e-tetradecanoyl)Arg³⁴-GLP-1(7-39);
 Gly⁸Lys²⁶(N^e-tetradecanoyl)Arg³⁴-GLP-1(7-39);

Arg^{26,34}Lys³⁶(N^e-tetradecanoyl)-GLP-1(7-37);

Lys²⁶(N^e-tetradecanoyl)Arg³⁴-GLP-1(7-38);

Gly⁸Arg^{26,34}Lys³⁶(N^e-tetradecanoyl)-GLP-1(7-37);

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Gly⁸Lys²⁸(N^r-(choloyl))Arg³⁴-GLP-1(7-37); Arg28.34Lys36(N*-(choloyI))-GLP-1(7-37); Glv⁸Arg^{28,34}Lys³⁶(N^{*}-(choloyi))-GLP-1(7-37); Lys²⁶(N⁴-(choloyl))Arg³⁴-GLP-1(7-38); 5 Gly⁸Lys²⁶(N⁴-(choloy!))Arg³⁴-GLP-1(7-38); Ara^{26,34}Lys³⁶(N^{*}-(choloyl))-GLP-1(7-38); Arg^{26.34}Lys³⁸(N^c-(choloyl))-GLP-1(7-38); Glv⁸Arg^{26,34}Lys³⁶(N^c-(choloyl))-GLP-1(7-38); Lvs²⁶(N^t-(choloyl))Arg³⁴-GLP-1(7-39); 10 Gly⁸Lys²⁸(N⁴-(choloyl))Arg³⁴-GLP-1(7-39); Arg^{26,34}Lys³⁶(N^e-(choloyl))-GLP-1(7-39); Gly⁸Arg^{26,34}Lys³⁶(N^c-(choloyl))-GLP-1(7-39); Lys²⁶(N^{*}-(lithocholoyl))Arg³⁴-GLP-1(7-37); Gly⁸Lys²⁶(N^s-(lithocholoyl))Arg³⁴-GLP-1(7-37); 15 Arg^{26,34}Lys³⁶(N^s-(lithocholoyi))-GLP-1(7-37); Arg^{26,34}Lys³⁸(N^{*}-(lithocholoyl))-GLP-1(7-37); Gly⁸Arg^{26,34}Lys³⁶(N^{*}-(lithocholoyi))-GLP-1(7-37); Lys²⁶(N^t-(lithocholoyl))Arg³⁴-GLP-1(7-38); Gly⁸Lys²⁶(N^c-(lithocholoyl))Arg³⁴-GLP-1(7-38); 20 Arg^{26,34}Lys³⁶(N^e-(lithocholoyl))-GLP-1(7-38); Arg^{26,34}Lys³⁸(N^{*}-(lithocholoyl))-GLP-1(7-38); Gly⁸Arg^{26,34}Lys³⁸(N^{*}-(lithocholoyl))-GLP-1(7-38);

Lys²⁶(N^s-(choloyl))Arg³⁴-GLP-1(7-37);

Lys²⁶(N^{*}-(lithocholoyl))Arg³⁴-GLP-1(7-39); 25 Gly⁸Lys²⁶(N^{*}-(lithocholoyl))Arg³⁴-GLP-1(7-39); Arg^{26,34}Lys³⁶(N^{*}-(lithocholoyl))-GLP-1(7-39); and Gly⁸Arg^{26,34}Lys³⁶(N^{*}-(lithocholoyl))-GLP-1(7-39).

20. A derivative of the preceding claim wherein Lys at position 34 is substituted with Arg.

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21. A derivative of an analog of GLP-1(7-36), GLP-1(7-37), GLP-1(7-38), or GLP-1(7-39), comprising the substitution of Gly at position 35 with Ala, Ser, Thr, Leu, Ile, Val, Glu, Asp, or Lys, wherein the derivative is optionally in the form of (a) a C-1-6-ester thereof, (b) amide, C-1-

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6-alkylamide, or C-1-6-dialkylamide thereof and/or (c) a pharmaceutically acceptable salt thereof, provided that

A. the derivative of the GLP-1 analog contains only one or two Lys,

- B. the ε -amino group of one or both Lys is substituted with a lipophilic substituent optionally via a spacer,
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- the total number of different amino acids between the derivative of the GLP-1 analog and the corresponding native form of GLP-1 does not exceed six.
- A derivative of an analog of GLP-1(7-36), GLP-1(7-37), GLP-1(7-38), or GLP-1(7-39),
 comprising the substitution of Arg at position 36 with His, Lys, Glu, or Asp, wherein the derivative is optionally in the form of (a) a C-1-6-ester thereof, (b) amide, C-1-6-alkylamide, or C-1-6-dialkylamide thereof and/or (c) a pharmaceutically acceptable salt thereof, provided that
 - A. the derivative of the GLP-1 analog contains only one or two Lys,
 - B. the ε-amino group of one or both Lys is substituted with a lipophilic substituent optionally via a spacer,
 - C. the total number of different amino acids between the derivative of the GLP-1 analog and the corresponding native form of GLP-1 does not exceed six.
 - D. the derivative of an analog of GLP-1(7-36), GLP-1(7-37), GLP-1(7-38), or GLP-1(7-39), is not selected from:
- 20 Gly⁸Arg^{26,34}Lys³⁸(N⁴-tetradecanoyl)-GLP-1(7-37),
 - Arg^{26,34}Lys³⁶ (N^{*}-tetradecanoyl)-GLP-1(7-37)-OH,
 - Arg^{26,34}Lys³⁶(N^t-(ω-carboxynonadecanoyl))-GLP-1(7-36)-OH,
 - Arg^{26,34}Lys³⁶ (N^ε-(ω-carboxyheptadecanoyl))-GLP-1(7-37)-OH,
 - Arg^{28,34}Lys³⁶ (N^ε-(ω-carboxyheptadecanoyi))-GLP-1(7-36)-OH,
- 25 Arg^{26,34}Lys³⁶ (N^{*}-(ω -carboxyundecanoyl))-GLP-1(7-37)-OH, Arg^{26,34}Lys³⁸ (N^{*}-(ω -carboxyundecanoyl))-GLP-1(7-36)-OH, Arg^{26,34}Lys³⁶ (N^{*}-(ω -carboxyheptanoyl))-GLP-1(7-37)-OH, Arg^{26,34}Lys³⁶ (N^{*}-(ω -carboxyheptanoyl))-GLP-1(7-36)-OH, Arg^{26,34}Lys³⁶ (N^{*}-(ω -carboxyheptanoyl))-GLP-1(7-36)-OH,
- 30 Arg^{26,34}Lys³⁶(N^{*}-tetradecanoyl)-GLP-1(7-37); Gly⁸Arg^{26,34}Lys³⁶(N^{*}-tetradecanoyl)-GLP-1(7-37); Arg^{26,34}Lys³⁶(N^{*}-tetradecanoyl)-GLP-1(7-38); Gly⁸Arg^{26,34}Lys³⁶(N^{*}-tetradecanoyl)-GLP-1(7-38); Arg^{26,34}Lys³⁶(N^{*}-tetradecanoyl)-GLP-1(7-39):

Gly⁸Arg^{26,34}Lys³⁸(N*-tetradecanoyi)-GLP-1(7-39); Arg^{26,34}Lys³⁶(N^e-(ω-carboxynonadecanoyl))-GLP-1(7-37); Glv⁸Arg^{26,34}Lys³⁶(N^{*}-(ω-carboxynonadecanoyl))-GLP-1(7-37); Arg^{26,34}Lys³⁶(N^ε-(ω-carboxynonadecanoyl))-GLP-1(7-38); Glv⁸Arg^{26,34}Lys³⁶(N^{*}-(ω-carboxynonadecanoyl))-GLP-1(7-38); 5 Arg^{26,34}Lys³⁶(N⁴-(ω-carboxynonadecanoyi))-GLP-1(7-39); Glv⁸Arg^{26,34}Lys³⁶(N^{*}-(ω-carboxynonadecanoy!))-GLP-1(7-39); Arg^{28,34}Lys³⁶(N^{*}-(7-deoxycholoyl))-GLP-1(7-37); Glv⁸Arg^{26,34}Lys³⁶(N^e-(7-deoxycholoyi))-GLP-1(7-37); Arg^{26,34}Lys³⁶(N^{*}-(7-deoxycholoyl))-GLP-1(7-38); 10 Gly⁸Arg^{26,34}Lys³⁶(N^e-(7-deoxycholoyl))-GLP-1(7-38); Ara^{26,34}Lys³⁶(N^e-(7-deoxycholoyl))-GLP-1(7-39); Gly⁸Arg^{26,34}Lys³⁶(N⁴-(7-deoxycholoyl))-GLP-1(7-39); Arg^{26,34}Lys³⁶(N^{*}-(choloyl))-GLP-1(7-37); Gly⁸Arg^{26,34}Lys³⁶(N[•]-(choloyi))-GLP-1(7-37); 15 Arg^{26,34}Lys³⁶(N^e-(choloyl))-GLP-1(7-38); Gly⁸Arg^{26,34}Lys³⁶(N^{*}-(choloyi))-GLP-1(7-38); Arg^{26,34}Lys³⁶(N^{*}-(choloyl))-GLP-1(7-39); Giv⁸Arg^{26,34}Lys³⁶(N^c-(choloyi))-GLP-1(7-39); 20 Arg^{26,34}Lys³⁶(N^e-(lithocholoyl))-GLP-1(7-37); Gly⁸Arg^{26,34}Lys³⁶(N^t-(lithocholoyl))-GLP-1(7-37); Arg^{26,34}Lys³⁶(N^e-(lithocholoyl))-GLP-1(7-38); Gly⁸Arg^{26,34}Lys³⁶(N*-(lithocholoyI))-GLP-1(7-38); Arg^{28,34}Lys³⁶(N^e-(lithocholoyl))-GLP-1(7-39); and

25 $Gly^8Arg^{26,34}Lys^{36}(N^{\epsilon}-(lithocholoyl))-GLP-1(7-39).$

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23. A derivative of an analog of GLP-1(7-36), GLP-1(7-37), GLP-1(7-38), or GLP-1(7-39), comprising the substitution of Gly at position 37 with Ala, Ser, Thr, Leu, Ile, Val, Glu, Asp, or Lys, wherein the derivative is optionally in the form of (a) a C-1-6-ester thereof, (b) amide, C-1-6-alkylamide, or C-1-6-dialkylamide thereof and/or (c) a pharmaceutically acceptable salt thereof, provided that

- A. the derivative of the GLP-1 analog contains only one or two Lys,
- B. the ε -amino group of one or both Lys is substituted with a lipophilic substituent optionally via a spacer,

- C. the total number of different amino acids between the derivative of the GLP-1 analog and the corresponding native form of GLP-1 does not exceed six.
- A derivative of an analog of GLP-1(7-36), GLP-1(7-37), GLP-1(7-38), or GLP-1(7-39),
 comprising the substitution of Arg at position 38 with His, Glu, Asp, or Lys, wherein the derivative is optionally in the form of (a) a C-1-6-ester thereof, (b) amide, C-1-6-alkylamide, or C-1-6dialkylamide thereof and/or (c) a pharmaceutically acceptable salt thereof, provided that

A. the derivative of the GLP-1 analog contains only one or two Lys,

- B. the ε -amino group of one or both Lys is substituted with a lipophilic substituent
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- optionally via a spacer,
- C. the total number of different amino acids between the derivative of the GLP-1 analog and the corresponding native form of GLP-1 does not exceed six,
- D. the derivative of an analog of GLP-1(7-36), GLP-1(7-37), GLP-1(7-38), or GLP-1(7-39), is not selected from:
- 15 $\operatorname{Arg}^{26,34}\operatorname{Lys}^{38}(N^{\epsilon}-(\omega-\operatorname{carboxynonadecanoyl}))-GLP-1(7-38)-OH,$ $\operatorname{Arg}^{26,34}\operatorname{Lys}^{38}(N^{\epsilon}-(\omega-\operatorname{carboxyheptadecanoyl}))-GLP-1(7-38)-OH,$ $\operatorname{Arg}^{26,34}\operatorname{Lys}^{38}(N^{\epsilon}-(\omega-\operatorname{carboxyheptanoyl}))-GLP-1(7-38)-OH,$ $\operatorname{Arg}^{26,34}\operatorname{Lys}^{38}(N^{\epsilon}-(\omega-\operatorname{carboxyheptanoyl}))-GLP-1(7-38)-OH,$ $\operatorname{Glu}^{22,23,30}\operatorname{Arg}^{26,34}\operatorname{Lys}^{38}(N^{\epsilon}-(\gamma-\operatorname{glutamyl}(N^{\alpha}-\operatorname{tetradecanoyl})))-GLP-1(7-38)-OH,$
- 20 Glu^{23,26}Arg³⁴Lys³⁸(N^ε-(γ-glutamyl(N^α-tetradecanoyl)))-GLP-1(7-38)-OH, Arg^{26,34}Lys³⁸(N^ε-(ω-carboxypentadecanoyl))-GLP-1(7-38)-OH,
 - Arg^{26,34}Lys³⁸(N^ε-(γ-glutamyl(N^α-tetradecanoyl)))-GLP-1(7-38)-OH,
 - Arg^{26,34}Lys³⁸(N^{*}-(ω-carboxypentadecanoyl))-GLP-1(7-38)-OH,

Arg^{26,34}Lys³⁸(N^ε-(γ-glutamyl(N^α-hexadecanoyl)))-GLP-1(7-38)-OH,

- 25 Arg^{18,23,28,30,34}Lys³⁸(N^ε-hexadecanoyl)-GLP-1(7-38)-OH, Arg^{28,34}Lys³⁸(N^ε-(ω-carboxytridecanoyl))-GLP-1(7-38)-OH, Arg^{26,34}Lys³⁸(N^ε-(γ-glutamyl(N^α-octadecanoyl)))-GLP-1(7-38)-OH, Arg^{28,34}Lys³⁸(N^ε-tetradecanoyl)-GLP-1(7-38); Arg^{28,34}Lys³⁸(N^ε-(ω-carboxynonadecanoyl))-GLP-1(7-38);
- 30 Arg^{26,34}Lys³⁸(N^{*}-(7-deoxycholoyl))-GLP-1(7-38); Arg^{26,34}Lys³⁸(N^{*}-(choloyl))-GLP-1(7-38); Arg^{28,34}Lys³⁸(N^{*}-(lithocholoyl))-GLP-1(7-37); and Arg^{28,34}Lys³⁸(N^{*}-(lithocholoyl))-GLP-1(7-38).

The derivative of the analog of GLP-1(7-36), GLP-1(7-37), GLP-1(7-38), OR GLP-1(7-25. 39) of any of claims 3-24, further comprising the substitution of Lys at position 26 with Arg.

The derivative of the analog of GLP-1(7-36), GLP-1(7-37), GLP-1(7-38), OR GLP-1(7-26. 39) of any of claims 3-24, further comprising the substitution of Lys at position 34 with Arg.

The derivative of the analog of GLP-1(7-36), GLP-1(7-37), GLP-1(7-38), OR GLP-1(7-27. 39) of any of claims 3-24, further comprising the substitution of Lys at positions 26 and 34 with Arg.

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The derivative of GLP-1 analog of any of claims 1-27, wherein only one Lys is pre-28. sent.

The derivative of GLP-1 analog of claim 28, wherein Lys is at the carboxy-terminus. 29.

The derivative of GLP-1 analog of any of claims 1-29, wherein Glu or Asp is adjacent 30. 15 to Lys.

The derivative of GLP-1 analog of any of claims 1-30, wherein the total number of 31. different amino acids between the derivative of the GLP-1 analog and the corresponding native form of GLP-1 is five.

The derivative of GLP-1 analog of any of claims 1-30, wherein the total number of 32. 20 different amino acids between the derivative of the GLP-1 analog and the corresponding native form of GLP-1 is four.

The derivative of GLP-1 analog of any of claims 1-30, wherein the total number of 33. different amino acids between the derivative of the GLP-1 analog and the corresponding native form of GLP-1 is three.

The derivative of GLP-1 analog of any of claims 1-30, wherein the total number of 34. different amino acids between the derivative of the GLP-1 analog and the corresponding native form of GLP-1 is two.

The derivative of GLP-1 analog of any of claims 1-30, wherein the total number of 35. different amino acids between the derivative of the GLP-1 analog and the corresponding native 30 form of GLP-1 is one.

The derivative of GLP-1 analog of claim 1 or any of claims 28-35, wherein the amino 36. acids at positions 37-45 are absent.

The derivative of GLP-1 analog of claim 1 or any of claims 28-35, wherein the amino 37. acids at positions 38-45 are absent.

The derivative of GLP-1 analog of claim 1 or any of claims 28-35, wherein the amino 38. acids at positions 39-45 are absent.

The derivative of GLP-1 analog of claim 1 or any of claims 28-38, wherein Xaa at po-39. sition 8 is Ala, Gly, Ser, Thr, or Val.

The derivative of GLP-1 analog of claim 1 or any of claims 28-39, wherein Xaa at po-40. sition 9 is Glu. 10

The derivative of GLP-1 analog of claim 1 or any of claims 28-40, wherein Xaa at po-41. sition 11 is Thr.

The derivative of GLP-1 analog of claim 1 or any of claims 28-41, wherein Xaa at po-42. sition 14 is Ser.

The derivative of GLP-1 analog of claim 1 or any of claims 28-42, wherein Xaa at po-43. 15 sition 16 is Val.

The derivative of GLP-1 analog of claim 1 or any of claims 28-43, wherein Xaa at po-44. sition 17 is Ser.

The derivative of GLP-1 analog of claim 1 or any of claims 28-44, wherein Xaa at po-45. sition 18 is Ser, Lys, Glu, or Asp. 20

The derivative of GLP-1 analog of claim 1 or any of claims 28-45, wherein Xaa at po-46. sition 19 is Tyr, Lys, Glu, or Asp.

The derivative of GLP-1 analog of claim 1 or any of claims 28-46, wherein Xaa at po-47. sition 20 is Leu, Lys, Glu, or Asp.

The derivative of GLP-1 analog of claim 1 or any of claims 28-47, wherein Xaa at po-48. 25 sition 21 is Glu, Lys, or Asp.

The derivative of GLP-1 analog of claim 1 or any of claims 28-48, wherein Xaa at po-49. sition 22 is Gly, Glu, Asp, or Lys.

The derivative of GLP-1 analog of claim 1 or any of claims 28-49, wherein Xaa at po-50. sition 23 is Gln, Glu, Asp, or Lys.

The derivative of GLP-1 analog of claim 1 or any of claims 28-50, wherein Xaa at po-51. 5 sition 24 is Ala, Glu, Asp, or Lys.

The derivative of GLP-1 analog of claim 1 or any of claims 28-51, wherein Xaa at po-52. sition 25 is Ala, Glu, Asp, or Lys.

The derivative of GLP-1 analog of claim 1 or any of claims 28-52, wherein Xaa at po-53. sition 26 is Lys, Glu, Asp, or Arg.

The derivative of GLP-1 analog of claim 1 or any of claims 28-53, wherein Xaa at po-54. sition 27 is Glu, Asp, or Lys.

The derivative of GLP-1 analog of claim 1 or any of claims 28-54, wherein Xaa at po-55. sition 30 is Ala, Glu, Asp, or Lys.

The derivative of GLP-1 analog of claim 1 or any of claims 28-55, wherein Xaa at po-15 56. sition 31 is Trp, Glu, Asp, or Lys.

The derivative of GLP-1 analog of claim 1 or any of claims 28-56, wherein Xaa at po-57. sition 32 is Leu, Glu, Asp, or Lys.

The derivative of GLP-1 analog of claim 1 or any of claims 28-57, wherein Xaa at po-58. sition 33 is Val, Glu, Asp, or Lys. 20

59. The derivative of GLP-1 analog of claim 1 or any of claims 28-58, wherein Xaa at position 34 is Lys, Arg, Glu, or Asp.

The derivative of GLP-1 analog of claim 1 or any of claims 28-59, wherein Xaa at po-60. sition 35 is Gly, Glu, Asp, or Lys.

The derivative of GLP-1 analog of claim 1 or any of claims 28-60, wherein Xaa at po-25 61. sition 36 is Arg, Lys, Glu, or Asp.

62. The derivative of GLP-1 analog of claim 1 or any of claims 28-61, wherein Xaa at position 37 is Gly, Glu, Asp, or Lys.

63. The derivative of GLP-1 analog of claim 1 or any of claims 28-62, wherein Xaa at position 38 is Arg or Lys.

5 64. The derivative of GLP-1 analog of claim 1, wherein Xaa at position 26 is Arg, each of Xaa at positions 37-45 is deleted, and each of the other Xaa is the amino acid in native GLP-1(7-36).

65. The derivative of GLP-1 analog of claim 1, wherein Xaa at position 26 is Arg, each of Xaa at positions 38-45 is deleted, and each of the other Xaa is the amino acid in native GLP-1(7-37).

66. The derivative of GLP-1 analog of claim 1, wherein Xaa at position 26 is Arg, each of Xaa at positions 39-45 is deleted, and each of the other Xaa is the amino acid in native GLP-1(7-38).

67. The derivative of GLP-1 analog of claim 1, wherein Xaa at position 34 is Arg, each of Xaa at positions 37-45 is deleted, and each of the other Xaa is the amino acid in native GLP-1(7-36).

68. The derivative of GLP-1 analog of claim 1, wherein Xaa at position 34 is Arg, each of Xaa at positions 38-45 is deleted, and each of the other Xaa is the amino acid in native GLP-1(7-37).

20 69. The derivative of GLP-1 analog of claim 1, wherein Xaa at position 34 is Arg, each of Xaa at positions 39-45 is deleted, and each of the other Xaa is the amino acid in native GLP-1(7-38).

70. The derivative of GLP-1 analog of claim 1, wherein Xaa at positions 26 and 34 is Arg, Xaa at position 36 is Lys, each of Xaa at positions 37-45 is deleted, and each of the other Xaa is the amino acid in native GLP-1(7-36).

71. The derivative of GLP-1 analog of claim 1, wherein Xaa at positions 26 and 34 is Arg, Xaa at position 36 is Lys, each of Xaa at positions 38-45 is deleted, and each of the other Xaa is the amino acid in native GLP-1(7-37).

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The derivative of GLP-1 analog of claim 1, wherein Xaa at positions 26 and 34 is Arg, 72. Xaa at position 36 is Lys, each of Xaa at positions 39-45 is deleted, and each of the other Xaa is the amino acid in native GLP-1(7-38).

The derivative of GLP-1 analog of claim 1, wherein Xaa at positions 26 and 34 is Arg, 73. Xaa at position 38 is Lys, each of Xaa at positions 39-45 is deleted, and each of the other Xaa is the amino acid in native GLP-1(7-38).

The derivative of GLP-1 analog of claim 1, wherein Xaa at position 8 is Thr. Ser, Gly 74. or Val, Xaa at position 37 is Glu, Xaa at position 36 is Lys, each of Xaa at positions 38-45 is deleted, and each of the other Xaa is the amino acid in native GLP-1(7-37).

The derivative of GLP-1 analog of claim 1, wherein Xaa at position 8 is Thr, Ser, Gly 75. 10 or Val, Xaa at position 37 is Glu, Xaa at position 36 is Lys, each of Xaa at positions 39-45 is deleted, and each of the other Xaa is the amino acid in native GLP-1(7-38).

The derivative of GLP-1 analog of claim 1, wherein Xaa at position 8 is Thr, Ser, Gly 76. or Val, Xaa at position 37 is Glu, Xaa at position 38 is Lys, each of Xaa at positions 39-45 is deleted, and each of the other Xaa is the amino acid in native GLP-1(7-38).

The derivative of GLP-1 analog of claim 1, wherein Xaa at position 18, 23 or 27 is Lys, 77. and Xaa at positions 26 and 34 is Arg, each of Xaa at positions 37-45 is deleted, and each of the other Xaa is the amino acid in native GLP-1(7-36).

The derivative of GLP-1 analog of claim 1, wherein Xaa at position 18, 23 or 27 is Lys, 78. and Xaa at positions 26 and 34 is Arg, each of Xaa at positions 38-45 is deleted, and each of 20 the other Xaa is the amino acid in native GLP-1(7-37).

The derivative of GLP-1 analog of claim 1, wherein Xaa at position 18, 23 or 27 is Lys, 79. and Xaa at positions 26 and 34 is Arg, each of Xaa at positions 39-45 is deleted, and each of the other Xaa is the amino acid in native GLP-1(7-38).

The derivative of GLP-1 analog of claim 1, wherein Xaa at position 8 is Thr, Ser, Gly, 25 80. or Val, Xaa at position 18, 23 or 27 is Lys, and Xaa at position 26 and 34 is Arg, each of Xaa at positions 37-45 is deleted, and each of the other Xaa is the amino acid in native GLP-1(7-36).

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81. The derivative of GLP-1 analog of claim 1, wherein Xaa at position 8 is Thr, Ser, Gly, or Val, Xaa at position 18, 23 or 27 is Lys, and Xaa at position 26 and 34 is Arg, each of Xaa at positions 38-45 is deleted, and each of the other Xaa is the amino acid in native GLP-1(7-37).

82. The derivative of GLP-1 analog of claim 1, wherein Xaa at position 8 is Thr, Ser, Gly, or Val, Xaa at position 18, 23 or 27 is Lys, and Xaa at position 26 and 34 is Arg, each of Xaa at positions 39-45 is deleted, and each of the other Xaa is the amino acid in native GLP-1(7-38).

83. The derivative of GLP-1 analog of any of claims 1-82, wherein the lipophilic substituent is attached to the N-terminal amino acid residue.

84. The derivative of GLP-1 analog of any of claims 1-82, wherein the lipophilic substituent is attached to the C-terminal amino acid residue.

85. The derivative of GLP-1 analog of any of claims 1-82, wherein the lipophilic substitu-15 ent is attached to an amino acid residue which is not the N-terminal or C-terminal amino acid residue.

86. The derivative of GLP-1 analog of any one of the preceding claims, wherein the lipophilic substituent comprises from 4 to 40 carbon atoms, more preferred from 8 to 25 carbon atoms.

87. The derivative of GLP-1 analog of any one of the preceding claims, wherein a lipophilic substituent is attached to an amino acid residue in such a way that a carboxyl group of the lipophilic substituent forms an amide bond with the ε -amino group of Lys.

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88. The derivative of GLP-1 analog of any one of the preceding claims, wherein the lipophilic substituent is attached to the parent peptide by means of a spacer.

89. The derivative of GLP-1 analog of claim 88, wherein the spacer is an unbranched al30 kane α,ω-dicarboxylic acid group having from 1 to 7 methylene groups, preferably two methylene groups, which form a bridge between an amino group of the parent peptide and an amino group of the lipophilic substituent.

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90. The derivative of GLP-1 analog of claim 88, wherein the spacer is an amino acid residue except Cys, or a dipeptide such as Gly-Lys.

91. The derivative of GLP-1 analog of claim 90, wherein the ε-amino group of Lys forms
5 an amide bond with a carboxylic group of the amino acid residue or dipeptide spacer, and an amino group of the amino acid residue or dipeptide spacer forms an amide bond with a carbo-xyl group of the lipophilic substituent.

92. The derivative of GLP-1 analog of any one of the preceding claims, wherein the lipop10 hilic substituent comprises a partially or completely hydrogenated cyclopentanophenathrene skeleton.

93. The derivative of GLP-1 analog of any of the claims 1-86, wherein the lipophilic substituent is an straight-chain or branched alkyl group.

94. The derivative of GLP-1 analog of any of the claims 1-86 wherein the lipophilic substituent is the acyl group of a straight-chain or branched fatty acid.

95. The derivative GLP-1 analog of claim 94 wherein the acyl group is selected from the 20 group comprising $CH_3(CH_2)_nCO$ -, wherein n is 4 to 38, preferably $CH_3(CH_2)_6CO$ -, $CH_3(CH_2)_8CO$ -, $CH_3(CH_2)_{10}CO$ -, $CH_3(CH_2)_{12}CO$ -, $CH_3(CH_2)_{14}CO$ -, $CH_3(CH_2)_{16}CO$ -, $CH_3(CH_2)_{16}CO$ -, $CH_3(CH_2)_{20}CO$ - and $CH_3(CH_2)_{22}CO$ -.

96. The derivative of GLP-1 analog of any one of the claims 1-86 wherein the lipophilic 25 substituent is an acyl group of a straight-chain or branched alkane α,ω -dicarboxylic acid.

97. The derivative of GLP-1 analog of claim 96 wherein the acyl group is selected from the group comprising HOOC(CH₂)_mCO-, wherein m is from 4 to 38, preferably from 4 to 24, more preferred selected from the group comprising HOOC(CH₂)₁₄CO-, HOOC(CH₂)₁₆CO-, HOOC(CH₂)₁₈CO-, HOOC(CH₂)₂₀CO- and HOOC(CH₂)₂₂CO-.

98. The derivative of GLP-1 analog of any one of the claims 1-86, wherein the lipophilic substituent is a group of the formula $CH_3(CH_2)_p((CH_2)_qCOOH)CHNH-CO(CH_2)_2CO-$, wherein p and q are integers and p+q is an integer of from 8 to 33, preferably from 12 to 28.

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99. The derivative of GLP-1 analog of any one of the claims 1-86, wherein the lipophilic substituent is a group of the formula $CH_3(CH_2)_7CO-NHCH(COOH)(CH_2)_2CO-$, wherein r is an integer of from 10 to 24.

100. The derivative of GLP-1 analog of any one of the claims 1-86, wherein the lipophilic substituent is a group of the formula $CH_3(CH_2)_sCO-NHCH((CH_2)_2COOH)CO-$, wherein s is an integer of from 8 to 24.

10 101. The derivative of GLP-1 analog of any one of the claims 1-86, wherein the lipophilic substituent is a group of the formula -NHCH(COOH)(CH₂)₄NH-CO(CH₂)_uCH₃, wherein u is an integer of from 8 to 18.

102. The derivative of GLP-1 analog of any one of the claims 1-86, wherein the lipophilic 15 substituent is a group of the formula -NHCH(COOH)(CH₂)₄NH-COCH((CH₂)₂COOH)NH-CO(CH₂)_wCH₃, wherein w is an integer of from 10 to 16.

103. The derivative of GLP-1 analog of any one of the claims 1-86, wherein the lipophilic substituent is a group of the formula -NHCH(COOH)(CH₂)₄NH-CO(CH₂)₂CH(COOH)NH-CO(CH₂)₄, wherein x is an integer of from 10 to 16.

104. The derivative of GLP-1 analog of any one of the claims 1-86, wherein the lipophilic substituent is a group of the formula -NHCH(COOH)(CH₂)₄NH-CO(CH₂)₂CH(COOH)NH-CO(CH₂)₄CH₃, wherein y is zero or an integer of from 1 to 22.

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105. A pharmaceutical composition comprising a derivative of GLP-1 analog of any of claims 1-104 and a pharmaceutically acceptable vehicle or carrier.

106. The pharmaceutical composition of claim 105, further comprising another antidiabetic agent.

107. The pharmaceutical composition of claim 106, wherein the antidiabetic agent is an insulin, more preferably human insulin.

108. The pharmaceutical composition of claim 106, wherein the antidiabetic agent is a hypoglaemic agent.

109. Use of a derivative of GLP-1 analog of any of claims 1-104 for the preparation of a medicament which has a protracted profile of action relative to GLP-1(7-37).

110. Use of a derivative of GLP-1 analog of any of claims 1-104 for the preparation of a medicament with a protracted profile of action for the treatment of non-insulin dependent diabetes mellitus.

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111. Use of a derivative of GLP-1 analog of any of claims 1-104 for the preparation of a medicament with a protracted profile of action for the treatment of insulin dependent diabetes mellitus.

15 112. Use of a derivative of GLP-1 analog of any of claims 1-104 for the preparation of a medicament with a protracted profile of action for the treatment of obesity.

113. A method of treating insulin dependent or non-insulin dependent diabetes mellitus in a patient in need of such a treatment, comprising administering to the patient a therapeutically effective amount of a derivative of GLP-1 analog of any of claims 1-104 together with a pharmaceutically acceptable carrier.

114. A method of treating obesity in a patient in need of such a treatment, comprising administering to the patient a therapeutically effective amount of the derivative of GLP-1 analog of any of claims 1-104.

NOVO NORDISK A/S

INTERNATIONAL SEARCH REPORT

International application No. PCT/DK 99/00082

A. CLASSIFICATION OF SUBJECT MATTER

IPC6: C07K 14/605, A61K 38/26 According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC6: C07K, A61K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

SE,DK,FI,NO classes as above

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

WPI, EPODOC, MEDLINE, EMBASE, CA

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Gitation of document, with indication, where app	propriate, of the relevant passages	Relevant to claim No.
Ρ,Χ	WO 9808871 A1 (NOVO NORDISK A/S) (05.03.98), See examples	, 5 March 1998	1-114
X	US 5614492 A (JOEL F. HABENER), (25.03.97), column 3, line 2 column 6, line 56 - column 7	28 - column 4, line 10;	1-114
		·	
X	WO 9629342 A1 (NOVO NORDISK A/S) (26.09.96), See esp. page 2-		1-114
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X Furt	her documents are listed in the continuation of Box	C. X See patent family anne	x.
• Specia "A" docum	her documents are listed in the continuation of Box d categories of cited documents: nent defining the general state of the art which is not considered of paracular relevance	T later document published after the ini date and not in conflict with the appl the principle or theory underlying the	ternational filing date or priority ication but cited to understand
• Specia "A" docum to be o "E" erlier o "L" docum	al categories of cited documents: nent defining the general state of the art which is not considered	T" later document published after the ini date and not in conflict with the appl	ternational filing date or priority ication but cited to understand invention claimed invention cannot be cred to involve an inventive
• Specia "A" docum to be c "E" ertier c "I." docum atted t special "O" docum means	al categories of cited documents: nent defining the general state of the art which is not considered of particular relevance document but published on or after the international filing date nent which may throw doubts on priority claim(s) or which is to establish the publication date of another citanon or other i reason (as specificd) nent referring to an oral disclosure, use, exhibition or other	 T" later document published after the initiate and not in conflict with the applithe principle or theory underlying the "X" document of particular relevance: the considered novel or cannot be considered to involve an inventive succombined with one or more other succembined with	ternational filing date or priority ication but cited to understand invention claimed invention cannot be ered to involve an inventive ic claimed invention cannot be po when the document is in documents, such combination
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 Special * Special * Count to be c * Count to be c<!--</td--><td>al categories of cited documents: nent defining the general state of the art which is not considered of particular relevance document but published on or after the international filing date nent which may throw doubts on priority dam(s) or which is to establish the publication date of another citanon or other is reason (as specified) ment referring to an oral disclosure, use, exhibition or other is tent published prior to the international filing date but later than icitiy date claumed</td><td> T" later document published after the initiate and not in conflict with the applitude principle or theory underlying the considered novel or cannot be considered novel or cannot be considered to involve an inventive succembined with one or more other succembined with one or more oth</td><td>ternational filing date or priority ication but cited to understand invention claimed invention cannot be ered to involve an inventive ic claimed invention cannot be the document is in documents, such combination he art t family</td>	al categories of cited documents: nent defining the general state of the art which is not considered of particular relevance document but published on or after the international filing date nent which may throw doubts on priority dam(s) or which is to establish the publication date of another citanon or other is reason (as specified) ment referring to an oral disclosure, use, exhibition or other is tent published prior to the international filing date but later than icitiy date claumed	 T" later document published after the initiate and not in conflict with the applitude principle or theory underlying the considered novel or cannot be considered novel or cannot be considered to involve an inventive succembined with one or more other succembined with one or more oth	ternational filing date or priority ication but cited to understand invention claimed invention cannot be ered to involve an inventive ic claimed invention cannot be the document is in documents, such combination he art t family
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• Specia *A' docum to be c *E' ertier cited t special *O' docum means *P' docum the pri Date of th 15 Apr Name and Swedish	al categories of cited documents: then defining the general state of the art which is not considered of particular relevance document but published on or after the international filing date then which may throw doubts on priority claum(s) or which is to establish the publication date of another claum(s) or which is to establish the publication date of another claum(s) or which is the specified) tent referring to an oral disclosure, use, exhibition or other intern published prior to the international filing date but later than icity date claumed the actual completion of the international search 1 1999 d mailing address of the ISA.	 T" later document published after the initiate and not in conflict with the applithe principle or theory underlying the considered novel or cannot be considered novel or cannot be considered to involve an inventive alor "Y" document of particular relevance: the considered to involve an inventive subbing obvious to a person skilled in the "&" document member of the same patent. Date of mailing of the international 0 5 -05- 1999 	ternational filing date or priority ication but cited to understand invention claimed invention cannot be ered to involve an inventive ic claimed invention cannot be the document is in documents, such combination he art t family

Form PCT/ISA/210 (second sheet) (July 1992)

INTERNATIONAL SEARCH REPORT

International application No. PCT/DK 99/00082

	PCT/DK 99/	00082
C (Continu	ation). DOCUMENTS CONSIDERED TO BE RELEVANT	
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No
x	EP 0708179 A2 (ELI LILLY AND COMPANY), 24 April 1996 (24.04.96), See esp. page 3, line 26 - line 39	1,2
A		3-114
A	US 5545618 A (DOUGLAS I. BUCKLEY ET AL), 13 August 1996 (13.08.96), column 2, line 50 - column 4, line 10	1-114
A	WO 9011296 A1 (THE GENERAL HOSPITAL CORPORATION), 4 October 1990 (04.10.90), page 5, 1 ine 18 - page 7, 1 ine 16	1-114
A	WO 8706941 A1 (THE GENERAL HOSPITAL CORPORATION), 19 November 1987 (19.11.87), page 7, line 18 - page 8, line 13; page 9, line 17 - line 25	1-114
A	WO 9531214 A1 (LONDON HEALTH ASSOCIATION), 23 November 1995 (23.11.95)	105-107
A	US 5631224 A (SUAD EFENDIC ET AL), 20 May 1997 (20.05.97), column 3, line 5 - line 19	108
	SA(210 (continuation of second sheet) (July 1992)	<u></u>

Form PCT/ISA/210 (continuation of second sheet) (July 1992)

INTERNATIONAL SEARCH REPORT

International application No. PCT/DK 99/00082

1

Box I Observations where certain claims were found unsearchable (Continuation of liem 1 of first sheet)	
This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons	:
1. X Claims Nos.: 113,114 because they relate to subject matter not required to be searched by this Authority, namely:	
Although claims 113 and 114 relate to methods for treatment of the human body, a search has been carried out based on the alleged effects of the claimed compounds.	
2. Claims Nos.: because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:	
3. Claims Nos.: because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a)	
Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)	4
This International Searching Authority found multiple inventions in this international application, as follows:	-
See next sheet	· .
1. As all required additional search fees were timely paid by the applicant, this international search report covers a searchable claims.	n
2. X As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payme of any additional fee.	nt
3. As only some of the required additional search fees were timely paid by the applicant. this international search report covers only those claims for which fees were paid, specifically claims Nos.:	·
4. No required additional search fees were timely paid by the applicant. Consequently, this international search report restricted to the invention first mentioned in the claims; it is covered by claims Nos.:	
Remark on Protest The additional search fees were accompanied by the applicant's protest.	
No protest accompanied the payment of additional search fees.	

Form PCT/ISA/210 (continuation of first sheet (1)) (July 1992)

--emational application No. PCT/DK 99/00082

The present application relates to a large number of peptide derivatives technically linked together by their homologies to GLP-1 and the presence of a lipophilic substituent on at least one Lys-residue. The lipophilic substituent is claimed to give the compounds a protracted profile of action. Derivatives of GLP-1, with the same effects as the claimed derivatives, are well known in the prior art, see e.g. US, 5614492, A. The method of introducing lipophilic substituents in order to obtain a protracted profile of action is also known, see WO, 9629342, A1.

No new effect of the claimed GLP-1 derivatives has been shown to arise from a common technical feature of the derivatives, structural or other, which defines a contribution over the prior art. Each new GLP-1 derivative is therefore considered to be a unique invention according to PCT Rule 13.1 and 13.2.

As all GLP-1 derivatives could be searched within one fee, the exact number of inventions has not been calculated.

1			AL SEARCH REP patent family members			International application No.		
					02/03/99	PCT/DK 99/00082		
Patent document cited in search report			Publication date	Patent family member(s)		Publicatio		
ÜS	5545618	A	13/08/96	AT	164852		15/04/98	
				CA	2073856		25/07/91	
				DE	691 29226		30/07/98	
				DK	512042		. · 11/05/98	
				EP	051 20 42		11/11/92	
				SE	051 2042			
				ES	2113879		16/05/ 9 8	
				WO	9111457	A	08/08/91	
W0	9011296	A1	04/10/90	EP	0464022	A	08/01/92	
	•••••			JP	4504246	Т	30/07/92	
WO	8706941	A1	19/11/87	AT	110083	 Т	15/09/94	
	0,000.12	••=		DE	3750402		01/12/94	
				EP	0305387		08/03/89	
				SE	0305387			
				EP	0587255	A	16/03/94	
				JP	1502746	Т	21/09/89	
	•			JP	25 83257		19/02/97	
				US	51 18666		02/06/92	
				US	5120712		09/06/92	
				US	5614492	A	25/03/97	
WO	9531214	A1	23/11/95	AU	2404495	A	05/12/95	
			•	CA	219 0112	A	12/05/95	
				EP	0762890	A	19/03/97	
				GB	9409496	_	00/00/00	
				JP	10500114	T	06/01/98	
US	5631224	A	20/05/97	AU	3888893		21/10/93	
				CN	1088835		06/07/94	
				EP	0631505		04/01/95	
				JP	7504670		25/05/95	
				WO	9318786		30/09/93	
				DK	9300099	U	13/04/93	

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					02/03/99	PCT/C	0K 99/00082		
	atent document I in search repo	rt	Publication date		Patent family member(s)		Publication date		
WO	9808871	A1 ·	05/03/98	AU	3847897		19/03/98		
				AU WO	4112497 9808872		19/03/98 05/03/98		
~~~									•
US	5614492	A	25/03/97	US At	5118666 110083		02/06/92 15/09/94	•	
				DE	3750402		01/12/94	· · · .	
				EP	0305387	A,B	08/03/89		
				SE EP	0305387 0587255		16/03/94		
	•			JP	1502746		21/09/89		
				JP	2583257		19/02/97		
				US WO	5120712 8706941		09/06/92 19/11/87		
						, <del></del>	و خذ ف و وی او و در خ خ د د		
WO	9629342	A1	26/09/96	AU BR	4939596 9607669		08/10/96 16/06/98		
				ĊA	2215739	Α	26/09/96		
				CN	1181760		13/05/98		
			•	CZ EP	9702877 0815135		15/04/98 07/01/98		
				NO	974269	A	14/11/97		
				PL US	322254 5869602		19/01/98 09/02/99		
<b></b> EP	0708179	 A2	24/04/96						
Er	0/001/9	rz.	24/04/90	AU BR	3432295 9504452		02/05/96 20/05/97		
				CA	2160753	A	19/04/96		
				CN CZ	1129224 9502666		21/08/96 15/05/96		
				FI	95 <b>49</b> 41	A	19/04/96		
				hu Hu	73413 9503001		29/07/96 00/00/00		
				IL	115583	D	00/00/00		
				JP	8245696 954055	••	24/09/96 19/04/96		
				NO PL	310961		29/04/96	ļ	
				US	5512549	A	30/04/96		
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